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                                           Volume 23

                                           Pages 4084 - 4237

                   UNITED STATES DISTRICT COURT

                 NORTHERN DISTRICT OF CALIFORNIA

              BEFORE THE HONORABLE WILLIAM H. ALSUP

ORACLE AMERICA, INC.,              )
                                   )
            Plaintiff,             )
                                   )
  VS.                              )  No. C 10-3561 WHA
                                   )
GOOGLE, INC.,                      )
                                   )
            Defendant.             )  San Francisco, California
_____)     May 15, 2012
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TRANSCRIPT OF JURY TRIAL PROCEEDINGS

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(Appearances continued on next page)

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                        Oracle Corporate Representative

                        CATHERINE LACAVERA
                        Google Corporate Representative

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 1                     P R O C E E D I N G S

 2   MAY 15, 2012                                      7:25 a.m.

 3

 4             (Proceedings held in open court, outside

 5              the presence and hearing of the jury.)

 6             THE COURT:  Okay.  On the record.  Good morning.

 7             (Good morning by all counsel.)

 8             THE COURT:  Any issues for the Court?

 9             MR. PURCELL:  Good morning, your Honor.  We had filed

10   a couple of motions last night, mainly asking for some

11   guidance, some clarification on what Phase 3 is going to look

12   like.

13             As you know, copyright damages are about

14   disgorgement, if any, for nine lines of code and eight test

15   files that didn't make it onto a phone, and it's clear now that

16   Oracle's strategy for litigating that is to bring our CEO and

17   our chairman here and ask them a lot of questions about big

18   numbers, projections, aspirational documents, and not to focus

19   on the nine lines of code, not to focus them on the eight test

20   files --

21             THE COURT:  All right.  Those are all good issues,

22   but why don't we -- we'll have time after the closings and

23   while the jury is deliberating, most likely, to address those.

24             MR. PURCELL:  Fair enough.

25             THE COURT:  You're right to bring it up because I
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 1 asked, but that can be postponed.

 2   MR. PURCELL: We'll talk about that later. Thank

 3 you.

 4   THE COURT: We'll put that off for future agenda.

 5   Anything else that relates to what we've got to do

 6 this morning?

 7   MR. VAN NEST: I don't believe so, your Honor.

 8   THE COURT: All right. Well, that's great. I don't

 9 think all members of the jury are present yet. Do you have the

10 courtroom set up the way you want it?

11   MR. VAN NEST: Close to it.

12   THE COURT: How about the plaintiff, since you go

13 first? Don't you want to get your easels ready?

14   MR. JACOBS: I like what's up there, your Honor.

15   THE COURT: So you can put as many easels up as you

16 want. Get your computerized screens ready.

17   You agreed on an hour and 15 minutes.

18   MR. JACOBS: That's correct, your Honor.

19   THE COURT: You have to save some of that for your

20 rebuttal.

21   MR. JACOBS: You bet, and I'll be keeping track.

22   THE COURT: How come we have two Elmos? Where did

23 that one come from?

24   MR. JACOBS: I think this is one that we can switch

25 to.

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 1              THE COURT:  What about that?

 2              MR. JACOBS:  I think one time we tried to switch to

 3    it and it didn't switch, so we brought in a backup.

 4              MR. VAN NEST:  Do we need that one up there?

 5              MR. JACOBS:  This one is easier to use for us.

 6              THE COURT:  Well, you set it up the way you want.

 7    This illustrates -- see, we here at the court had a debate over

 8    whether to spend federal tax dollars on fancy equipment for the

 9    courtroom, and I was of the view that we were spending too much

10    money and it was better -- in no time whatever we bought would

11    be out of date and the lawyers wouldn't want to use it.  I rest

12    my case.

13              MR. VAN NEST:  I actually think what your Honor has

14    works very well.

15              THE COURT:  It does.  I think if you had been here

16    for the MS-13 trial, you wouldn't think so, because we had at

17    least a dozen times in six months where the equipment failed

18    and we had to put everything on hold while the technical people

19    came in and figured out where the glitch was.

20              MR. VAN NEST:  That's a long time with use every

21    single day.

22              THE COURT:  It's five-and-a-half months.

23              Dawn, are the jurors present?

24              THE CLERK:  I don't think they are all year yet, no,

25    Judge.
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1   **THE COURT:** We sent out yesterday the final charge.

2 Did everyone get that?

3   **MR. JACOBS:** Yes, your Honor.

4   **THE COURT:** I propose to read the first third as

5 before and then turn it over to the plaintiffs for their

6 closing, and probably at that point it will be time for a

7 break. We'll come back and do all of the closings for the

8 defense. Then we'll do the rebuttal and then I will finish off

9 the instructions. So that's kind of my tentative thought.

10   **MR. VAN NEST:** So the first third you read, through

11 seven or so; seven or eight?

12   **THE COURT:** Yes. Page 4, that will be seven.

13   (Brief pause.)

14   **THE COURT:** All right. While we have a moment, let

15 me ask you this: I have been working hard on the order dealing

16 with copyrightability and I don't think I'm going to have that

17 in the next week for sure, But I don't want anyone to think --

18 I'm willing to have an oral argument on it if that's what you

19 want.

20   I think we have already had so many oral arguments

21 that relate to it that perhaps it's unnecessary, but give me

22 your views on whether you want to have a stand-alone oral

23 argument on copyrightability issues.

24   **MR. VAN NEST:** I think that's really up to your

25 Honor. As you know, we've briefed it several times. If you

 1 believe that would be helpful to you in drafting your order,

 2 fine, we're happy to do it.

 3   But I kind of agree with your first comment, that

 4 we've had a number of briefs. We've had a number of arguments

 5 on it. Again, if it would be helpful to your Honor, that's

 6 fine, but otherwise I think we would submit on what we filed.

 7   **THE COURT:** How about plaintiff?

 8   **MR. JACOBS:** In the action, your Honor.

 9   **THE COURT:** All right. Thank you for your guidance.

10   Do we have the exhibit boxes ready to go in the jury

11 room?

12   **THE CLERK:** The exhibits are pulled, your Honor.

13 They are ready.

14   **THE COURT:** How about the index? Did you lawyers

15 agree to an index?

16   **MR. JACOBS:** We have an agreed joint list of admitted

17 trial exhibits, Phase 2.

18   **THE COURT:** Is that correct, on that side.

19   **MR. VAN NEST:** Yeah. I believe so, your Honor.

20   **THE COURT:** Mr. Jacobs will hand that to the clerk

21 and the clerk will include that in the exhibits when they go

22 into the jury room.

23   (Whereupon document was tendered

24   to the clerk.)

25   **THE COURT:** No disputes over things you want to show

 1   the jury in the closing arguments, I gather.

 2   **MR. VAN NEST:** We haven't exchanged slides, your

 3   Honor, which was our practice for Phase 1 as well. So we will

 4   be taking them all by surprise.

 5   **THE COURT:** Ambush, a tried and true method.

 6   Years ago -- I didn't see it, but years ago Joe

 7   Cochette -- some of you are old enough to remember the 1980s

 8   and the S&L crisis, remember that? Anyway, Joe Cochette had a

 9   trial, a securities case, where it was against some accounting

10   firms that rose out of the S&L's, how come the accounting firms

11   didn't detect the failures in progress. So in his closing

12   argument he played a clip from a movie where it was the Titanic

13   going down.

14   (Laughter.)

15   **THE COURT:** I bet every member of that jury remembers

16   to this day that closing argument.

17   Okay. Let's see if the jurors are present.

18   (Brief pause.)

19   **THE CLERK:** Judge, no.

20   **THE COURT:** Well, I'll let you relax for a minute and

21   I'll step off the bench and come back when they are all here.

22   (Whereupon there was a recess in the proceedings

23   from 7:35 a.m. until 8:21 a.m.)

24   **THE COURT:** Please be seated.

25   I am informed by the clerk that Ms. Gonzales, who is

1 our second juror on the front row, is not coming. She's had an

2 auto wreck or something and -- not a wreck, but her car broke

3 down on the Bay Bridge, and that the first message was

4 ambiguous as to whether or not she was going to get here. She

5 was going to try to get her husband to come, but now she's

6 informed Dawn that she's just not coming.

7   So we have three options. If you want me to send the

8 U.S. Marshal out to track her down and arrest her and bring her

9 back, that would be one option.

10   Second option would be to just dismiss her and move

11 on. We can go with 11.

12   Or, we can wait til tomorrow. Maybe we would inform

13 her that she needs to come back.

14   I won't tell you what my judgment is yet -- I will

15 tell you, my judgment is we ought to dismiss her. I won't rule

16 this. I want your agreement. We should dismiss her and do the

17 arguments now.

18   **MR. JACOBS:** We agree with that, your Honor.

19   **MR. VAN NEST:** That's fine, your Honor.

20   **THE COURT:** So at this time I'm going to dismiss

21 Ms. Jacqueline Gonzales from the jury. She will be notified,

22 but Dawn I want you to please notify her she is not to talk to

23 anybody, including the press, the lawyers, anyone, until this

24 case is over, because I don't want her revealing what's been

25 going on inside the jury room until this case -- the jury is

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 1  fully discharged.  Would you please get ahold of her and tell

 2  her that?

 3           And I hereby order everyone in the courtroom, all the

 4  lawyers, all members of the press, you will be in violation of

 5  a direct order if you in any way approach her and try to work

 6  her for information until after the entire jury is discharged.

 7  Then you can do it all you want, I guess, but not now.  I don't

 8  want there to be any compromise of the integrity of this trial

 9  by the lawyers or the press for the time being.

10           So she is not discharged from her obligations and

11  admonitions, but she is discharged from further participation

12  in the jury.

13           So at this time, Dawn, let's see if the other 11

14  members of the jury are present.

15           THE CLERK:  Okay.

16           (Brief pause.)

17           (Jury enters the courtroom at 8:26 a.m.)

18           THE COURT:  All right.  Welcome back.  Please be

19  seated.

20           May I make a suggestion that the four of you scoot

21  down one chair, unless you think that will disorient you.

22           Ms. Gonzales, who is our -- one of our jurors had an

23  unfortunate -- not an accident, her car started to break down

24  on the Bay Bridge and has created such a problem that she is

25  just not going to be able to be here today period.  So we hate
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1 to lose someone who's worked this hard on the case, but really

2 we have no choice. Otherwise, it would be a huge inconvenience

3 to the rest of you on the jury. So we have discharged her.

4 She is no longer on the jury.

5   Now, I need to say to you. You're not supposed to be

6 talking with anyone about the case, period, but now you cannot

7 talk with her at all. She is now an ordinary civilian. If you

8 ran into her on the street, you cannot talk to her in any way,

9 just like you couldn't talk to anyone else. Whenever you

10 deliberate on the case it will be you 11; just you 11 now, not

11 12.

12   So she will not be part of the jury going forward.

13 She is completely gone from the case.

14   All right? We got that part?

15   (Jury nodding affirmatively.)

16   **THE COURT:** Good. So we have lost 45 minutes on

17 account of this, but I think we are still okay on time.

18   We're going to have the closing arguments in a moment

19 and then the instructions, but there is a short set of the

20 instructions I want to give you first, then we will go to the

21 closings. We will have appropriate breaks along the way. It

22 will be just the same drill as before, and in some ways shorter

23 because many of the instructions I gave you before I'm going to

24 just trust that you remember them. A few I will restate. So

25 what I will do now is start with the first third. It's really

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 1  only four pages.  It will take less than 10 minutes, and then

 2  we'll go to the closing statement.
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JURY INSTRUCTIONS

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 4         THE COURT:  Members of the jury, it is now my duty to

 5  instruct you on the law that applies to this phase.  A copy of

 6  these instructions will be available in the jury room for you

 7  to consult as necessary.  It is your duty to find the facts

 8  from all the evidence and to decide whether the side with the

 9  burden of proof has carried that burden applying the elements

10  of proof required by the law, elements I will provide you in a

11  moment.

12         In following my instructions, you must follow all of

13  them and not single out some and ignore others.  You must not

14  read into these instructions or into anything the Court may

15  have said or done as suggesting what verdict you should return.

16  That, of course, is a matter entirely up to you.

17         I will repeat only part of the instructions I

18  previously gave you regarding what is and is not evidence and

19  the burdens of proof.

20         Now, the evidence from which you are to decide what

21  the facts are consists of:

22         One, the sworn testimony of witnesses, whether

23  presented in person or by deposition.

24         Two, the exhibits received into evidence.

25         And, three, any stipulated facts and pretrial
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1 discovery items read into evidence, such as responses to the

2 requests for admissions.

3   Certain things are not evidence and you may not

4 consider them in deciding what the facts are. I will list them

5 for you.

6   First, arguments, statement and objections by lawyers

7 are not evidence. Not evidence. The lawyers are not

8 witnesses. What they have said in their opening statements,

9 closing arguments and at other times is intended to help you

10 interpret the evidence, but it is not evidence itself. If the

11 facts as you remember them differ from the way the lawyers have

12 stated them, your memory of them controls.

13   Two, a suggestion in a question by counsel or the

14 Court is not evidence unless it is adopted by the answer. A

15 question by itself is not evidence. Consider it only to the

16 extent it was adopted by the answer.

17   Three, testimony or exhibits that have been excluded

18 or stricken or that you have been instructed to disregard are

19 not evidence and must not be considered. In addition, some

20 testimony and exhibits have been received only for a limited

21 purpose. Where I have given a limiting instruction, you must

22 follow it.

23   Finally, anything you may have seen or heard when the

24 Court is not in session is not evidence.

25   Now, evidence may be direct or circumstantial. You

1   should consider both kinds. The law makes no distinction

2   between the weight to be given either direct or circumstantial

3   evidence. It is for you to decide how much weight to give any

4   evidence. You will remember that example I gave you about the

5   rain, about the water on the sidewalk. Well, that's

6   circumstantial evidence. I won't repeat that example. But

7   it's up to you to decide how much weight to give circumstantial

8   evidence. Both kinds, direct and circumstantial, weigh in as

9   evidence.

10   Now, certain charts and summaries have been shown to

11 you in order to help explain facts disclosed by books, records

12 and other documents which are in evidence in the case. They

13 are not themselves evidence or proof of any facts. If they do

14 not correctly reflect the facts or figures shown by the

15 evidence in the case, you should disregard these charts and

16 summaries and determine the facts from the underlying evidence.

17   Now, I will address the burden of proof. In this

18 phase the preponderance of the evidence standard applies to all

19 issues except one. When a party has the burden of proof on an

20 issue by a preponderance of the evidence, it means you must be

21 persuaded by the evidence that the allegation is more probably

22 true than not true. More probably true than not true.

23   To put it differently, if you were to put the

24 evidence favoring a plaintiff and the evidence favoring a

25 defendant on opposite sides of the scale, the party with the

1 burden of proof on the issue would have to make the scale tip

2 somewhat toward its side. If the party fails to meet this

3 burden of proof, then the party with the burden of proof loses

4 on the issue.

5   Preponderance of the evidence basically means more

6 likely than not. For one issue the standard is higher and is

7 called proof by clear and convincing evidence.

8   Now, let me just stop here and say, you didn't -- I

9 don't think you heard about this in the first phase, so this is

10 a new term for you.

11   For one issue the standard is higher and is called

12 proof by clear and convincing evidence. When a party has the

13 burden of proving any claim by clear and convincing evidence,

14 it means you must be persuaded by the evidence that the claim

15 is highly probable. Highly probable. This is a higher

16 standard of proof than proof by a preponderance of the

17 evidence.

18   Just to skip forward for a moment. You will find

19 that the clear and convincing standard applies to the

20 willfulness issue, which I will tell you about in due course.

21   Okay. On any issue if you find that plaintiff

22 carried its burden of proof as to each element of a particular

23 issue, your verdict should be for plaintiff on that issue. If

24 you find that plaintiff did not carry its burden of proof as to

25 each element, you must find against plaintiff on that issue.

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 1          So at this point I've read the first one-third of the

 2   instructions and when I resume later on, I will get right into

 3   the substance of the law that applies to the case; but I wanted

 4   to stop, give you that first one-third.

 5          On behalf of Oracle America, at this time Mr. Jacobs

 6   will give the opening part of his closing argument.

 7          Mr. Jacobs, the floor is yours.
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CLOSING ARGUMENT

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 9          MR. JACOBS:  Thank you very much, your Honor.  Thank

10   you very much.

11          I know we've said that, both sides, throughout this

12   trial.  It is easy to say "thank you."  I hope you have seen

13   evidence of our appreciation.  Both sides, with the guidance of

14   Judge Alsup, have tried to streamline the case, narrow the

15   issues for your decision making.  Both sides have had to make

16   compromises along the way to accomplish that.  So I hope you

17   see that through the parties' actions, we really do appreciate

18   the sacrifice you've made to serve on this jury.

19          You watch us.  We watch you.  We see that you're

20   working hard.  You have been taking lots of notes.  You have

21   been paying attention even to some highly technical testimony.

22   It's honestly hard for me to follow it sometimes and I have

23   been living with this case a couple of years.  I can only

24   imagine what it's like to step into this trial and follow Java

25   bytecode.  Java bytecode.  We talked about Java bytecode in
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 1 this trial. Even Java programmers don't learn Java bytecode.

 2 Java bytecode is down here (indicating). Java programmers

 3 write-up here (indicating) in the source instructions that you

 4 saw in the top of that chart. So we really dug deep, and we

 5 really got into it, and we really mixed it up. And I think

 6 you'll conclude at the end of this set of presentations to you,

 7 that the evidence on our side, that Google infringed and that

 8 infringes willfully is more than -- more likely than not. It's

 9 just overwhelming. So let's get into it.

10   (Document displayed)

11   There are really three points that the evidence that

12 we'll be talking about circles around. Does Google infringe

13 the '104 patent? Does Google infringe the '520 patent? And is

14 Google's infringement willful?

15   And we will explain to you why the evidence, the

16 exhibits and the testimony show that the answer to all of those

17 questions is yes.

18   But that's the focus. One of the things I'm going to

19 be focusing on is focus. What the issues are that really need

20 to be decided; how the evidence relates to those issues; and

21 how some of the distractions from the Google side are designed

22 to divert from that focus. Because if we focus, if we look

23 closely at what we have to decide, then the evidence lines up.

24 We have proved our case. And we'll ask you for a finding of

25 liability.

1   So on infringement that, in turn, boils down to a set

2   of focused questions. In the case of the two patents: Does

3   Android meet the claims? You heard this already from Judge

4   Alsup at the beginning. It's all a question of looking at the

5   claims, at the metes and bounds of the property in deciding

6   whether Android infringes based on that claim language. Not

7   based on ancillary issues. Not based on surroundings. Not

8   based on things like whether Android is open or not or whether

9   Java was dedicated to the public some day. That's just not the

10   question. The question is: Is the claim language met? And so

11   that's what we'll be focusing on very heavily in this

12   presentation.

13   As I suggested to you at the outset of this phase,

14   this process we're now engaged in is more focused itself than

15   Phase 1, because in Phase 1 we had our question of

16   infringement, the jury was able to decide; and then we had the

17   question of Google's affirmative defense, that was a question

18   you split on.

19   In this case we just have a question of infringement.

20   There are no affirmative defenses that Google has to present to

21   you to justify or excuse its infringement.

22   And when we look at the claims, it turns out that

23   although there is a bit of underlining, when you actually look

24   closely at what needs to be underlined, the disputed elements

25   are very narrow. So as we focus in, we'll be looking very

 1 closely at what exactly what is in dispute.

 2   And as to those disputed elements, Google's arguments

 3 just aren't credible. They are fighting with their own

 4 documentation. They are fighting with their source code.

 5 We'll show you that they are fighting with their own software

 6 developers. They are even quarreling through and with their

 7 own expert.

 8   There is no license. No license. We know that from

 9 Phase 1, relevant to Phase two. We'll be talking about -- in

10 the willfulness section we'll be talking about the license

11 issue again. But Google has no defense that they were

12 permitted, authorized, granted the right by Oracle or Sun to

13 infringe these patents.

14   Free use is out. The clean room is irrelevant. You

15 heard testimony from Mr. Rubin on that. Open source is

16 irrelevant. It's just the question does Google infringe the

17 claims of these patents.

18   (Document displayed)

19   One of the distractions might be: Look at Android.

20 It's huge. 15 million lines of code. They are only focusing

21 on one little portion. All the added stuff. How can an

22 Android infringe? That would be a Google argument. I can

23 imagine one of you going back into the jury room after this

24 phase and saying, "You know, they are just focusing on this one

25 little feature, but Android is big. How can they possibly

 1 infringe?" Again, that is not the issue. The issue is whether

 2 Android infringes the claims.

 3   And there's actually an important instruction that

 4 you're going to get in a few minutes from Judge Alsup, which

 5 says specifically:

 6   "If all elements of an asserted claim have

 7   been proven, it is not a defense to

 8   infringement that the accused product or

 9   method includes an additional element not

10   called out in the patent claim."

11   So you don't avoid infringement by doing other stuff.

12 You don't avoid infringement because Android is big. And we're

13 focusing on some particular functions. Google does not avoid

14 infringement by that argument.

15   (Document displayed)

16   For infringement purposes what is important is the

17 ways in which Android is relevant. And it starts with the

18 fact, the reason these patents -- there's a reason these

19 patents are infringed. It's not random. There a reason

20 these patents are infringed. And the reason this these patents

21 are infringed is that Google started out by adopting the basic

22 Java architecture, the basic Java design.

23   We talked about some of the specific elements of

24 this, on the left side, the Java side, and on the right side.

25 Importantly, on both sides of this stack diagram is the Java

1 compiler. And Google specifically tells developers to go to

2 the then Sun/now Oracle, website and download the Java

3 development kit. That is why on both sides of this stack we

4 have a Java compiler.

5   And if you have any doubt on that question, take a

6 look at Trial Exhibit 741, which says, "Download the JDK" --

7 JDK is the Java Development Kit -- "it's on the Oracle

8 website."

9   So what is being output from both sides of the stack

10 is something called bytecode. Yes, Google does a translation

11 into something called dex code. And then what is running on

12 both computers is a virtual machine. And so starting with the

13 compiler and ending with the virtual machine Google confronted

14 the same problems that the Sun Java developers confronted some

15 years ago. And that is why there's infringement. There's a

16 reason for it. There was a conscious adoption of the Java

17 architecture and that led Google to infringe.

18   We'll talk about that how that unfolded in the second

19 half of this presentation.

20   (Document displayed)

21   We may hear again from Google that virtual machines

22 have long been in existence. We heard it in the opening

23 statement. Once again, it's a distraction and it's irrelevant.

24 We're not claiming a patent on all virtual machines. The

25 question of prior art that you heard about in the video is not

 1 before you. There is no invalidity defense.

 2   The question once again: Does Android infringe the

 3 claims of the patent? It doesn't matter that virtual machines

 4 have been known for many decades.

 5   (Document displayed)

 6   It doesn't matter that symbolic and numeric

 7 references have been known for many decades. Our patent claims

 8 involve numeric reference. It claims resolving the symbolic

 9 reference the first time around and then using the numeric

10 reference afterwards.

11   It claims that -- it claims like Courtroom 8.

12 Courtroom 8 is the symbolic reference. Once you know where

13 Courtroom 8 is, you don't have to go to the directory and see

14 where Courtroom 8 is. You come right to the courtroom.

15   That's what the invention is all about. This is

16 just -- this is a distraction.

17   (Document displayed)

18   You just heard the instruction on our burden on this

19 issue, our burden of proof. And it's called a preponderance of

20 the evidence. And the question is whether it's more likely

21 than not that Google infringes the claims of these patents.

22 And the question is whether the scales tilt just a bit in favor

23 of Oracle. If it does, then you decide, yes, Google infringes.

24 That's our burden on this issue. Tip the scales a bit in

25 Oracle's favor. We'll tip them a lot, but the burden is just

1   tip a bit.

2   (Document displayed)

3   That brings us to the '104 patent. And you've seen

4   now a lot about the '104 patent. Just to remind you that the

5   inventor was James Gosling, the father of Java. That the

6   original application -- if you look down at the bottom of the

7   screen, the original application was filed in 1992. You may

8   think to yourself, Wow, Android, that's pretty modern. 1992,

9   that's a long time ago. Somebody might think back -- when you

10   go back and deliberate, how can a patent that was first

11   described in a document in an application in 1992 be relevant

12   to Android, which is undoubtedly a modern cell phone platform.

13   And the answer is, as we saw in trial, they confronted on the

14   cell phone the very same problems that the Java developers were

15   confronting then on desktops.

16   You heard the testimony about this kind of cycle of

17   the computer industry and how the same problems keep on

18   recurring as we shrink the technology, take what was a desktop

19   and put it in our pockets.

20   (Document displayed)

21   The only issue on all of the claims of the '104

22   patent is symbolic references. The amount of highlighting is

23   small. We'll show you it can be even smaller. The amount of

24   underlining, showing you the disputed element. And we will

25   explain why, as to the four patents on the left -- the four

 1 claims on the left the Dalvik interpreter aspect of Android

 2 infringes and as to the two claims on the right, dexopt,

 3 another component of Android infringes.

 4   (Document displayed)

 5   And just to make clear what the issues are in each

 6 case, to divide it up a little bit, with respect to Resolve.c

 7 in the Dalvik interpreter, the first set of claims, the only

 8 issue is whether the symbolic references are -- qualify as

 9 symbolic references because they are contained in the

10 instruction stream. That is the issue over here on whether

11 this "field@CCCC," this "01" (indicating), is a symbolic

12 reference because it's undoubtedly contained in the instruction

13 stream. No dispute about that.

14   And then for dexopt there is this additional issue of

15 whether the resolution of a symbolic reference is a dynamic

16 one. So we'll cover both.

17   (Document displayed)

18   Let's talk first "contained in the instruction

19 stream" and whether that limitation, that element of the claims

20 is met.

21   Now, we start with what was up disputed. Android

22 resolved symbolic references. You saw this in the source code

23 in the comments. At 46.15 in the trial exhibits:

24   "This converts symbolic references into

25   pointers."

 1   It's exactly what we're talking about in the

 2   invention of the '104 patent. And it specifically said

 3   "resolved." And if you look at some of the claims the claim

 4   language is "determined." In other cases it's "resolved."

 5   This is not disputed. Google admits that Android resolves

 6   symbolic references.

 7   And then the description of it was dead on to what

 8   we're talking about. At 46.14:

 9   "When a class, method, field, or string

10   constant is referred to from Dalvik bytecode,

11   the reference takes the form of an integer

12   index value."

13   That's exactly what this is (indicating), an integer

14   index value.

15   "This value indexes into an array of these

16   various types."

17   So it's indexing into the array, and then that is

18   converted.

19   "The resolver uses those to convert the

20   instruction stream index into a pointer to

21   the appropriate object or struct."

22   And you'll recall that the object is over here

23   (indicating).

24   So this is almost a word-for-word description of

25   what's going on in the claims right here in the Dalvik source

 1 code.

 2   (Document displayed)

 3   So Google focused on a very narrow aspect of the

 4 claim language.

 5   And, Mr. Lee, if I could just have Claim 11 up for a

 6 minute?

 7   (Document displayed)

 8   So again, Google has to acknowledge that symbolic

 9 references are converted into numeric references. So,

10 actually, the underlining on Claim 11 is a little overstated.

11 The real question is whether the instructions "contain one or

12 more symbolic references."

13   So we can -- for present purposes just to focus the

14 discussion, we can delete the underlining on the rest of these

15 because, again, Google concedes that Dalvik converts symbolic

16 references. It's just a question of whether said instructions

17 are contained in the -- said references are contained in the

18 instructions.

19   (Document displayed)

20   Again, the definition of "symbolic reference." You

21 saw this frequently through the Court -- through the trial, but

22 we're going to focus closely on it as we discuss this

23 infringement issue.

24   "A reference that identifies data by a name

25   other than the numeric memory location of the

1   data, and that is resolved dynamically rather

2   than statically."

3   Now, the word "name" is in there for symbolic

4   reference and the word "numeric" is in there for the numeric

5   memory location. That created the potential for confusion that

6   Google exploited until we were able to nail it down through

7   their expert.

8   (Document displayed)

9   The question was: Is the fact that this field index

10   is a number, does that mean it can't be a symbolic reference?

11   We know in every day life that's just wrong. Numbers are

12   symbolic references all the time. Whether it's a number on the

13   back of an athletic uniform or a Social Security number or all

14   the ID cards we carry around or even a driver's license number,

15   all of these are symbols. And in order to find out what all of

16   them mean, you would have to trace them through a data base, to

17   ultimately a data object (indicating), and find out what is the

18   person associated with the Social Security number. If it was

19   an athlete, you would look at the program and you would say,

20   okay, who has number 20 on his back? That's a symbolic

21   reference.

22   (Document displayed)

23   And, finally, Dr. August admitted that a number can

24   be a name and, therefore, a symbolic reference for purposes of

25   this analysis. So we can clear away that confusion. A number

1   can be a symbolic reference. The fact that this (indicating)

2   position here, the "field@CCCC" is a number doesn't matter

3   because a number can be a symbolic reference.

4   (Document displayed)

5   Now, there was another potential source of confusion

6   which we clarified also through Dr. August and through

7   Professor Mitchell. What's the data that this claim is talking

8   about? Is it talking about what Google wanted to focus on,

9   which is the constant pool information (indicating), or is it

10 talking about the data in the data object (indicating), the

11 actual field value, the actual data?

12   And the key lies in the claim language. Because what

13 it what it talks about at the end of the claim is:

14   "...obtaining data in accordance to said

15   numerical references."

16   Mr. Lee, can we have Claim 11 up again?

17   (Document displayed)

18   And can you highlight the last fragments?

19   (Document highlighted)

20   "...obtaining data in accordance with said

21   numerical references."

22   So the whole goal of this exercise is to obtain

23 meaningful data, the actual data. And we proved that, again

24 through Professor August, when we asked him to walk us through

25 Fig. A -- 1A and Fig. 1B of the patent, and he confirmed that

1 when talking -- when we're talking about the patent, the data

2 that we're obtaining, the data we're talking about is the data

3 in what the patent calls the "data object," over here on the

4 right (indicating), and what ultimately we labeled the "data

5 object" or the "instance object" on the Dalvik representation,

6 on the dex representation.

7   So what we're talking about when we talk about a

8 symbolic or numeric reference is retrieving the actual value of

9 the data. And that's, of course, what the programmer wanted to

10 do when the programmer wrote the program in source code.

11   So that's the setup for understanding, then, the way

12 this in Android (indicating) actually works. And it started to

13 become clear with Mr. McFadden's testimony when we examined

14 him.

15   (Document displayed)

16   And this was the magic moment. This was when, it

17 seemed to me, I almost had a Perry Mason moment. They were

18 almost going to get up and say, "Yes, we infringed." But it

19 didn't happen. We had to go through a couple more steps.

20   Mr. McFadden acknowledged that the role of this

21 instruction here (indicating) in the instruction stream, 52,

22 the role of the IGET instruction is to "obtain actual field

23 data from an object." That's the role of the IGET instruction.

24   Of course, the IGET instruction is what is given

25 meaning (indicating) by the value in the instruction stream

 1 below it. So we have to understand what the IGET instruction

 2 is doing in order to understand whether 01 is a symbolic

 3 reference.

 4   (Document displayed)

 5   Next step in the chain was realizing -- presenting to

 6 you the realization that Google was not depicting a complete

 7 representation of what's going on. Because this Slide 20,

 8 which you saw many times and many hours were spent on by

 9 Google, doesn't depict the actual field value. It doesn't

10 depict the actual -- the data object from which the data is

11 being retrieved.

12   What Google's slide showed you was some intermediate

13 steps along the way to getting that value. Intermediate steps

14 along way to getting that value. It's as if what they were

15 focusing on was this: You get a notice that says, "Go to

16 Courtroom 8." And then it says to you, "Look at the directory

17 on the wall," and it pinpoints the location of the directory on

18 the wall. You still have to look at the directory to find out

19 where Courtroom 8 is. And that is your goal, to get to

20 Courtroom 8, to get the actual field value. That there might

21 be a little intermediate step along the way is completely

22 irrelevant to the question of infringement here.

23   (Document displayed)

24   And this became clear also when we examined

25 Mr. McFadden. So we asked him:

1   **"QUESTION:** In this particular case, the

2   illustration you gave to the jury" -- we were

3   referring to Slide 20 -- "fun is a symbol for

4   a field that has a value?

5   **"ANSWER:** Yes.

6   **"QUESTION:** And what's the value of that

7   field in your illustration?

8   **"ANSWER:** The value of that field is not

9   shown in the illustration.

10   **"QUESTION:** But it was shown; wasn't it, sir?

11   **"ANSWER:** I don't believe so."

12   And then again:

13   **"QUESTION:** That value, the actual field data

14   in an object -- this is the point you were

15   making before -- that's not even shown here

16   on Slide 20, is it?

17   **"ANSWER:** No.

18   **"QUESTION:** In my example, where the actual

19   value of the field in an object was 17, the

20   number 17 would not appear on this slide the

21   way you drew it?

22   **"ANSWER:** Correct."

23   (Document displayed)

24   And then, of course, we walked through it first with

25 Dr. August and Dr. August acknowledged that in order to

1 properly understand the role of the IGET instruction, we have

2 to show -- or we have to represent the data object over here on

3 the right (indicating).

4   Now, this is Dr. Mitchell's slide. What I have up --

5 this is Dr. Mitchell's chart over here (indicating). What I

6 have up for you is what we developed with Dr. August, and he

7 acknowledged that we needed to show the data object or the

8 instance object in order to show what IGET does, what we're

9 actually retrieving within the meaning of the claim language.

10   (Document displayed)

11   And so we asked him:

12   **"QUESTION:** The IGET instruction finds the

13   instance of an object and retrieves the data

14   from a specified field?

15   **"ANSWER:** Yes.

16   **"QUESTION:** And the object that we've

17   depicted here on this chart is the instance

18   object; true, sir?

19   **"ANSWER:** True."

20   So Google had presented a slide focused -- Slide 20

21 focused on some intermediate steps that left out the most

22 important step of the process: What is IGET's role in life?

23 What is IGET's mission? What is its purpose? It's purpose is

24 to get data from something that Google left off.

25   And if you're trying to figure out -- if maybe some

1   of the code -- after several days the code is still a little

2   mysterious, there's a little clue lurking in this to

3   understanding which side can meet its burden under the

4   instructions. The fact that Google left off the actual data

5   object from its presentation and that we had to add it is a

6   little bit of a tip that maybe they weren't telling the whole

7   story because if you tell the whole story, the infringement is

8   clear.

9   (Document displayed)

10   And, of course, Professor Mitchell then explained

11 that in his testimony. He walked through how one writes source

12 code and how that source code is compiled. The variable was

13 "y" in the source code, and then it was compiled, and there was

14 this constant pool created, and the constant pool has various

15 descriptors of "y."

16   But, again, the role of IGET, the role of the

17 instruction in the instruction stream and the role of the 01 in

18 the instructions, contained in the instructions, is to get data

19 from the data object. And that's exactly what it does, and

20 that's exactly why it's a symbolic reference, because it

21 doesn't point exactly to the numerical location of that data.

22   Now, let me just spend one moment on Professor

23 Mitchell. There were errors in his report. You saw in the

24 video of his deposition how it was pointed out to him, and he's

25 looking at his report and the wheels are turning and right

1   there on the spot he says, "Oh, yeah, that's a mistake." And

2   he just acknowledged it in his deposition like that. He didn't

3   quarrel with it. He didn't try to justify it. "Oh, yeah.

4   That's a mistake."

5   How do we know it's a mistake? Well, the way he

6   reacted in that deposition. And, also, that we showed that in

7   other portions of his report he had accurately stated his

8   opinion that these indices in the instructions, such as 01

9   (indicating), are symbolic references. So it was an honest

10 mistake. He's a professor for 30 years at Stanford University.

11 He is a noted computer scientist and there was a bug in his

12 report.

13   But there's another clue as to how that was used

14 at the trial. Because 90 percent of Google's examination of

15 Dr. Mitchell was about the error in his report. What does that

16 tell you? What that tells you is that if you analyze the

17 report as -- that did not have the errors in it, they don't

18 have an argument, because the portions of the report that

19 accurately stated his opinion are unassailable.

20   This field (indicating) "@CCCC," the "01" in Chart 20

21 in Google's Chart 20 is a symbolic reference, and the fact that

22 Google was not able to elicit testimony from Dr. Mitchell that

23 was inconsistent with that reinforces that we're right and they

24 are wrong.

25   Now, there are a couple other bits of testimony that

 1 help take the clouds from our eyes about what this "instant

 2 field" is -- sorry, what this "index" is over here

 3 (indicating), and that is a symbolic reference.

 4   So, again, we asked Mr. McFadden:

 5   **"QUESTION:** Can you explain what the IGET

 6   instruction is?

 7   **"ANSWER:** That is the instance field GET

 8   instruction. What that means is there is an

 9   object somewhere" -- over here (indicating)

10   -- "and you need to get a piece of data out

11   of it. The data is stored in fields. So

12   somewhat this instruction does is it finds

13   the instance of the object" -- again, over

14   here (indicating). Remember, Google uses the

15   term instance object -- "and retrieves the

16   data from the specified field."

17   Again, the clouds part. What's the specified field?

18 It's the field specified by 01. It gets you to that point in

19 data.

20   Remember that discussion with Dr. August, who was

21 resisting the obvious technical point here, which is that 01

22 doesn't specify some random location. It specifies a

23 particular location, a unique location.

24   (Document displayed)

25   Now, there is another way to understand, sort of

 1 another proof, that this index over here (indicating) is a

 2 symbolic reference.

 3   And, again, let's go back to the definition:

 4   "A reference that identifies data by a name

 5   other than the numeric memory location and

 6   that is resolved."

 7   Hold the dynamic versus static issue for a minute.

 8 "And that is resolved."

 9   So one way to know that a reference is a symbolic

10 reference is if it's resolved into a numeric memory location.

11   There are two parts to this argument. One is that,

12 as I said earlier, this over here (indicating) itself is not a

13 numeric memory location.

14   And so we got that out of Dr. August:

15   **"QUESTION:** The object from which the actual

16   field data has been retrieved in the patent

17   is called a data object; true, sir?

18   **"ANSWER:** That's correct."

19   **"QUESTION:** So we put the '104 patent down

20   here. We call this a data object. The

21   actual field values are like the 17 in the

22   data object; true, sir?

23   **"ANSWER:** The values in the object are like

24   the 17.

25   **"QUESTION:** And 01 is not the numerical

 1   memory location of actual field data in the

 2   instance object?

 3   **"ANSWER:** That's right. There is no arrow

 4   that directly connects 01 to the first field

 5   in the instance object."

 6   This does not directly connect to the data object

 7 because there has to be a resolution process (indicating). Am

 8 I just telling you that? No. That's what Mr. McFadden told

 9 us.

10   (Document displayed)

11   He told us that this instruction (indicating) never

12 contains the actual location of the actual field data.

13   **"QUESTION:** So the IGET instruction, the role

14   of the IGET instruction is to obtain actual

15   field data from an object; true, sir?

16   **"ANSWER:** True.

17   **"QUESTION:** The field index in the IGET

18   instruction is not the numerical memory

19   location of the actual field data in an

20   object; is it, sir?

21   **"ANSWER:** It is not.

22   **"QUESTION:** True or false? The Dalvik IGET

23   instruction never contains the numerical

24   memory location of the actual field data that

25   it is supposed to get and ultimately store it

1   in a Dalvik register?

2   **"ANSWER:** True."

3   So first step in the logic. This is not a numerical

4 memory location to the actual data in the object (indicating).

5   (Document displayed)

6   Recall the claim language.

7   "The symbolic reference is resolved or

8   determined into a numerical reference."

9   Question for Mr. McFadden:

10   **"QUESTION:** And then the resolver converts

11   the instruction stream index" -- it converts

12   this (indicating) -- "into a pointer to the

13   appropriate object or struct?

14   **"ANSWER:** Yes.

15   **"QUESTION:** Would you agree that in this

16   context the pointer -- that which the

17   symbolic reference has been converted into --

18   is a numeric reference?

19   **"ANSWER:** Yes.

20   **"QUESTION:** Well, the Dalvik VM resolves a

21   Dalvik bytecode reference to a class, method,

22   field or string constant into a pointer to

23   the appropriate object or struct?

24   **"ANSWER:** Yes."

25   So, once again, confirming that what happens is this

 1 index is ultimately resolved into a numeric reference.

 2   And then the clincher, again, from Mr. McFadden who

 3 answered the technical questions accurately.

 4   (Document displayed)

 5   **"QUESTION:** The instruction stream index is

 6   not the numeric memory location of the

 7   appropriate object or struct, is it?

 8   **THE WITNESS:** No.

 9   **"QUESTION:** No, it is not the numeric memory

10   location; correct?

11   **"ANSWER:** It is not the address of that item.

12   **"QUESTION:** Because if it were, there would

13   be no reason to convert it into a pointer;

14   true?

15   **"ANSWER:** Correct."

16   So what have we established? We have established

17 that the role of the IGET instruction is to retrieve data from

18 the data object.

19   We established that 01 specifies fluid and indirect

20 process the location of the data object.

21   We have established that 01 has to be resolved into

22 numeric memory location.

23   We have established that a number can be a symbol.

24   We have now established that 01 is a symbolic

25 reference contained in the instructions. That is all the claim

1 language requires with this additional topic for one aspect of

2 our infringement claim of dynamic that I'll address in a

3 moment.

4   All the experts, all the witnesses agree on how this

5 works. There was no technical disagreement about the operation

6 of this code. At the end of the day, this poster from Dr.

7 Mitchell and the poster from Dr. August are, for all intents

8 and purposes, identical. It's just that it took Oracle's

9 examination to develop the existence of this data object, the

10 misleading nature of this chart, which obscured the true

11 meaning of 01. The true meaning of 01 is Courtroom 8. It is a

12 symbolic reference. It is not the actual numeric memory

13 location. It has to be resolved into that and that's what

14 Dalvik does.

15   Now, remember there are two categories of claims, two

16 accusations of infringement.

17   (Document displayed)

18   For Dalvik, Google conceded that the resolution

19 process is dynamic. The only issue was for this other

20 infringement target, which was dexopt. And that's -- there is

21 an issue. Google contests whether the resolution is dynamic

22 within the meaning of the Court's claim construction.

23   (Document displayed)

24   So laying out this chart again where dexopt in Dalvik

25 claims 27 and 29 there is this additional dynamic issue.

 1   (Document displayed)

 2   Lots of witnesses referred to what dexopt does as

 3   resolving symbolic references. So just the plain language of

 4   "symbolic reference" seems to -- everybody seems to understand

 5   what that is and agree that dexopt resolves symbolic

 6   references.

 7   And so Mr. McFadden said when I asked him:

 8   **"QUESTION:** Dexopt resolves what even you

 9   concede are symbolic references?

10   **"ANSWER:** True.

11   **"QUESTION:** And it resolves them into

12   numerical references?

13   **"ANSWER:** True."

14   And then I asked him to clarify this dynamic point:

15   **"QUESTION:** Because that resolution process

16   depends on the conditions actually existing

17   on the handset, when those conditions change

18   by way of a system update, dexopt needs to

19   rerun?

20   **"ANSWER:** True."

21   And so then I said to him:

22   **"QUESTION:** If I mean by dynamic, by the word

23   dynamic, depending on conditions on the

24   handset which can change from time to time,

25   then it is dynamic; true, sir?

 1   **"ANSWER:** True."

 2   Now, the Court's claim construction doesn't say

 3 anything particular about "dynamic." It simply says "dynamic."

 4 And "dynamic" means changing, "dynamic" means active.

 5   Now, Mr. Bornstein did use the phrase "static

 6 linking" in his description of what's going on. So Google has

 7 a word argument, since Bornstein calls it static linking.

 8 We're talking about dynamic resolution. It's not dynamic

 9 because Bornstein called it static.

10   (Document displayed)

11   But it is dynamic. The fact that you label this side

12 green doesn't make it blue. And when we talked with Dr. August

13 about this, he struggled. He squirmed, but ultimately we

14 elicited what we needed to get.

15   Bornstein had written in this previous slide:

16   "When a dex file arrives on a device, it will

17   have symbolic references to methods and

18   fields, but afterwards it might just be a

19   simple integer vtable offset."

20   He had testified right on the stand in this courtroom

21 that he meant to be conveying that in many cases the symbolic

22 reference will be resolved by dexopt. That's right.

23   So I asked Dr. August:

24   **"QUESTION:** Do you disagree with Bornstein?"

25   And he's looking at the screen and he says:

1   "ANSWER: Well, he's not applying the Court's

2   construction here. He is using the ordinary

3   meaning of the words.

4   "QUESTION: The ordinary meaning of symbolic

5   reference?

6   "ANSWER: Well, the parts that describe the

7   symbolic reference as being resolved

8   dynamically rather than statically is not

9   something he has in mind in this question --

10   in this answer.

11   "QUESTION: Because he was using symbolic

12   references the way one ordinarily would;

13   true, sir?

14   "ANSWER: Outside the context of the '104

15   patent, you might use symbolic reference in

16   that way.

17   "QUESTION: You weren't suggesting he was

18   using the phrase improperly; were you, sir?

19   "ANSWER: No."

20   What is really going on here is Professor August is

21 applying a special meaning of dynamic.

22   (Document displayed)

23   Google would argue that "dynamic" requires doing

24 these steps at runtime. And you heard that through the

25 testimony and I expect you will hear it through Google's

1   closing argument. But nothing in the Court's construction says

2   "dynamic" means "runtime." It simply says "dynamic."

3   And so we apply what we all understand "dynamic" to

4   mean, which is changing, in motion, active. We ask ourselves:

5   Is that the way dexopt resolves it? We look at the evidence.

6   The evidence is, every time you got new system software on your

7   device, dexopt had to rerun because it needed to know what was

8   going on on that device. That's all we need to show in order

9   to show that the resolution process was dynamic.

10   (Document displayed)

11   And we elicited this testimony from several

12   witnesses. We elicited testimony from Mr. Bornstein that.

13   "Dexopt processes dex files while the Dalvik

14   Virtual Machine is running."

15   So things are going on in the device. It's not just

16   a dumb device with some kind of conversion going on.

17   And then we asked him:

18   **"QUESTION:** Well, why don't you do the

19   optimization at the developer's side rather

20   than on the handset?"

21   And Mr. McFadden told us that the reason they chose

22   not to do that is:

23   **"ANSWER:** Because there is information that

24   Google needs -- Android needs in order to run

25   dexopt that's required to get from the device

1   on which the application is installed."

2   That's exactly what dynamic means. It means getting

3   information about the real device that the software is on and

4   incorporating that into the resolution process.

5   (Document displayed)

6   So you'll get a verdict form like you did last time.

7   I want to make sure we are clear about what we think the

8   evidence proves and, therefore, what your verdict should be.

9   And on each of these claims, Claim 11, 27, 29, 39, 40

10 and 41, we ask that you look at the evidence, evaluate it

11 fairly, and conclude that Google is infringing each of those

12 claims of the '104 patent.

13   Confusion avoidance point. You have to look at it

14 claim-by-claim, but the language -- the disputed language is

15 the same underlining. I've highlighted for you where there is

16 a dynamic dispute that is different for certain of the claims.

17 We think we have proven that it is dynamic, and so this

18 shouldn't tarry long on that. But you do need to put a

19 checkmark as to each claim and each claim needs to be

20 evaluated.

21   That brings us to the '520 patent. This was, recall,

22 the static initialization patent. It's also a Sun patent.

23   (Document displayed)

24   And, remember, that the actual dispute here is over

25 whether pattern matching is simulation. And recall my analogy

1 that it's like -- the way the bytecodes come out of the

2 compiler, it's like standing outside the grocery store and

3 going back in and out each time. And afterwards, after you do

4 the simulation in your head of your grocery shopping, it's a

5 quick path through the grocery store.

6   So this is the heart of this dispute: Whether

7 Android simulates execution.

8   (Document displayed)

9   Whether the dx tool on the developer's side simulates

10 extrusion.

11   (Document displayed)

12   Once again, it's all in the source code. Trust the

13 source code. If you trust what the Google developers were

14 saying to each other and saying to themselves about what their

15 code does, there is only one answer because what -- they are

16 doing that outside the litigation context. They are not

17 creating arguments to try to avoid infringement in court. They

18 are telling technical truths to themselves and to their code

19 readers.

20   And simulator.java is the file in Android that is the

21 kind of the main file and it says, we're going to simulate the

22 effects of executing bytecode. Again, almost aligns directly

23 with the claim language.

24   (Document displayed)

25   So Google comes up with a couple of arguments. There

1 was the stack argument. Well, if I look at Android, I don't

2 see it manipulating a stack. But even Dr. Parr, Google's

3 expert, had to acknowledge that the word "stack" appears

4 nowhere in the asserted claims.

5   Now, confusion avoidance point. If you look at the

6 patents closely, you will see some other claims that are not

7 asserted that do mention "stack." Those claims do mention

8 "stack," but we didn't assert those claims. We asserted the

9 claims that don't -- that aren't narrowed to "stack."

10   And so Google is making a noninfringement argument

11 against claims that are not asserted here because all we had to

12 show is that they simulate execution.

13   So what was the bottom line argument for Google on

14 simulating execution? Well, it's pattern recognition. It's

15 not simulating execution.

16   Okay. So I'm looking at my grocery list. I'm

17 standing outside the store. There are two ways I can shop.

18 I can shop in and out, or I can make a nice path through the

19 grocery store. Two ways that I can simulate execution. I can

20 look at each individual item, or I can look for patterns in my

21 grocery list. I could look to see whether somehow I was going

22 around the dairy counter repeatedly.

23   It's a little artificial, I acknowledge, but we're

24 talking about computers here. That still is simulating

25 execution. I'm not actually going in and out of the store.

1 I'm looking at the grocery list to figure out if there is a

2 more direct path through the shopping list. So pattern

3 recognition is a category of simulation.

4   Then there was this argument about parseNewarray,

5 which actually does the pattern recognition. This is the file

6 that -- simulates up here (indicating) and it's doing its thing

7 to simulate execution of the bytecode. It examines the first

8 part of the bytecode -- we'll show that in a minute -- and then

9 it calls parseNewarray, and Google's argument is parsing is not

10 simulation.

11   (Document displayed)

12   And then they ask this question, another kind of

13 misdirection, another instance of trying to create fusion.

14 They ask Dr. Mitchell:

15   **"QUESTION:** Well, do other files call

16   parseNewarray?"

17   He says:

18   **"ANSWER:** I don't know. That's not really

19   the question here. The question here is does

20   simulate Java call parseNewarray as part of

21   simulation. That's the issue. And, of

22   course, it does."

23   And then there was Dr. Mitchell's clear and

24 unequivocal testimony that simulation can include pattern

25 matching.

1   It's a false dichotomy. Simulation parsing,

2   simulation pattern matching, it's all of a piece.

3   (Document displayed)

4   If you examine the code closely, you will see what at

5   46.16 simulator.java that it's the class which knows how to

6   simulate the effects of executing bytecode, it's the public

7   class simulator, it calls parseNewarray as part of its process,

8   but it is simulating. It is called simulator. The developers

9   knew what they were doing when they labeled the main function,

10 the main routine simulation.

11   (Document displayed)

12   Have we proven that it is more likely than not that

13 the scales tip ever so slightly in Oracle's favor on the '520

14 patent? Yes, we have. Claims 1 and 20, all the elements of

15 those claims are met. Google infringes.

16   Now, let me turn to the next topic. We actually made

17 it through the technical part of this presentation and we've

18 seen a couple of things. We've seen that Google's arguments

19 are really week; that they can't tip the scales down because

20 the source code in the documentation and the admissions of

21 their own developers and the clear testimony of Dr. Mitchell

22 show that the limitations are met.

23   So now we're going to change topics a little bit and

24 go to willfulness. And here we do have a slightly higher

25 burden of proof. For CSI watchers, it's still not proof beyond

1 a reasonable doubt. It's in between. It's clear and

2 convincing evidence. Got to tilt the scales more than ever so

3 slightly.

4   And the question is: Did Google willfully infringe

5 one or more claims of an asserted patent?

6   (Document displayed)

7   And the way the verdict works is you look to what you

8 answered "yes" to on the '104 and '520 patents and then you

9 turn to the question, okay, was it willful?

10   (Document displayed)

11   And you will get an instruction on how you decide

12 whether infringement is willful. So we have to show two

13 things. Again, we have to show them by this somewhat higher

14 standard; that Google acted despite a high likelihood that

15 Google's actions infringed a patent, and that Google actually

16 knew or should have known that its actions constituted an

17 unjustifiably high risk of infringement of a patent.

18   And what's the -- what is this a part of? It's a

19 part of an instruction that says that you have to decide

20 whether Google acted recklessly. Was Google reckless in the

21 way that it approached it's development of Android given all

22 that it knew or should have known about Oracle, earlier Sun's,

23 intellectual property rights and patents?

24   Now, let me pause for a minute here to just remind us

25 all what we're talking about. We talked about this at the

1 beginning. Patents are right there in the constitution.

2 Patent protection is a vital part of an idea in an

3 innovation-driven economy. You can tell by the level of

4 resources being given to this trial how important this dispute

5 is, and how important your role is, and how important these

6 patents are to Oracle.

7   You heard about Oracle's acquisition of Sun. You

8 heard about how important Java was. These patents are part of

9 the protection of that investment.

10   You heard from Dr. Reinhold how in the last year

11 Oracle has dramatically expanded its investment in Java, nearly

12 doubling the number of Java programmers. How in our society do

13 we protect that? A variety of ways. A critical way is patent

14 protection.

15   So when we ask whether Google acted recklessly, we

16 ask ourselves, knowing how important patents are, knowing that

17 Sun had lots of patents, knowing that they were copying aspects

18 of Java into Android, did they hide their head in the sand,

19 pretend there was no risk, or, as we'll see once again, simply

20 risk making enemies along the way and this particular lawsuit.

21   (Document displayed)

22   When you think of recklessness, what is recklessness?

23 Recklessness is driving the wrong way down a one-way street.

24   Google's argument is something of the form: We never

25 knew which car would hit us until very late, until July 2010.

1 Therefore, we can't be reckless.

2   I think we'll show you -- first of all, that doesn't

3 make any sense. We know that reckless driving, you don't have

4 to know which car you're going to run into. I think we'll show

5 you Google acted recklessly, even though until July 2010 they

6 weren't on notice from Oracle or Sun of these particular

7 patents-in-suit.

8   (Document displayed)

9   Let's just set the base line here. What's the basic

10 environment in which Google was walking when they started to

11 develop Android? Everybody else has a license. You heard

12 about the different forms of licenses. They licenses are not

13 just for code or copyrights. They also contained within them

14 grants of patent rights.

15   So what's the basic environment that Google is

16 stepping into? It's a world in which everyone else is

17 licensed.

18   (Document displayed)

19   And what does Google decide to do early on in Android

20 development? They decide to make Java central. They decide to

21 make a Java-based system. That decision is final.

22   This is a message, an email you saw in Phase 1.

23 You'll be seeing a mix over the next few minutes of emails

24 from -- that you saw before and that are part of the background

25 and additional evidence that you will have in the jury room

 1 this time around.

 2   (Document displayed)

 3   And they adopted Java Platform components and

 4 concepts in Android. So they could have gone off in a

 5 completely different direction, but they didn't. They decided

 6 to make it Java-based.

 7   Recall that the Java compiler is part of the Android

 8 development package. The Android SDK says, "Go to the Oracle

 9 website. Download the Java compiler."

10   Now, I'm -- we're not arguing that that act alone

11 represents infringement of our intellectual property rights.

12 There are other Java compilers out there. That's not the

13 point.

14   The point is when Google set out to develop Android,

15 they didn't set out to develop something completely independent

16 where the risk of patent infringement would have been more or

17 less random. They set out to develop something that adopted

18 key components of Java.

19   (Document displayed)

20   And all the way through the development process they

21 have this in mind. You may recall the admission from Mr. Rubin

22 on the stand this time in Phase 2:

23   **"QUESTION:** Mr. Rubin, true or false: As of

24   all of 2009, you were referring to Dalvik as

25   a Java Virtual Machine?"

1   Because he had an email where he said it's Java

2 Virtual Machine.

3   He said:

4   **"ANSWER:** Umm, we were using it

5   interchangeably to describe our work at the

6   time internally."

7   So as of 2009 when they have already decided to

8 change the instruction set, the instruction format and go down

9 the dex path that's illustrated here, they are still thinking,

10 it's so similar to Java that we're going to call it a Java

11 Virtual Machine.

12   (Document displayed)

13   What was their motive for infringing these patents?

14 What was Google's motive? They had these basic problems as

15 they were developing Android. They needed to overcome the

16 performance and memory problems that the Java developers faced

17 10 years before.

18   And so in TX 23 we have an email to Mr. McFadden in

19 which Brian Swetland, who you saw in Phase 1 said, "We've got

20 to be fast and stable."

21   And then we elicited testimony from Mr. McFadden in

22 Phase two in this trial about the challenges they faced.

23   "Mobile devices are a lot less capable than

24   desktops. They have less storage. They are

25   lower. They are running off a battery.

1   Everything needs to be more efficient and

2   more exact."

3   (Document displayed)

4   And then, of course, this basic realization

5   throughout the development of Dalvik and of Android that speed

6   matters on cell phones. Milliseconds matter to users.

7   (Document displayed)

8   They implemented these features, the feature of the

9   '104 and the '520 patent, because it makes the device run

10 faster.

11   This is what Bornstein said when he described

12 reference resolution, symbolic reference resolution. He said

13 specifically:

14   "When it comes time to run, we can run that

15   much faster."

16   This is in TX 816.

17   "And so that's why we do reference

18   resolution."

19   And, recall, in this presentation he's describing

20 again almost word-for-word the claim language.

21   "A dex file arrives on a device. It will

22   have symbolic references to methods and

23   fields. Afterwards it might be just a simple

24   integer of vtable offset, a numeric

25   reference."

1   Why did they do it? Because it made the device run

2   fast.

3   (Document displayed)

4   We showed our benchmark test and there was a lot of

5   debate about benchmark testing and whether it was accurate and

6   fair until Dr. August was on cross-examination.

7   (Document displayed)

8   And Dr. August acknowledged that the benchmarks that

9   Oracle had used to test the '104 patent were standard

10 benchmarks. He said CaffeineMark is a standard benchmark. He

11 said that Scimark is a standard benchmark. And he even

12 acknowledged that those are benchmarks that Google uses to

13 evaluate performance. And then, of course, he had done no

14 performance testing of his own.

15   (Document displayed)

16   And Google's own documents showed that their

17 performance improved by about 20 percent from optimizing by:

18   "...converting the constant pool indices in

19   instance" --

20   Once again, almost the claim language.

21   "...converting constant pool indices into

22   instance field GET/PUT and virtual calls" --

23   Sorry. Let me start over. This is TX 258. The

24 document says:

25   "The optimizations convert constant pool

 1   indices" -- remember, these are the indices

 2   (indicating) -- "in instance field GET/PUT

 3   and virtual method calls to byte offsets and

 4   vtable indices, respectfully. They allow us

 5   to skip a couple of lookups."

 6   That's an example what the patent describes and

 7   claims.

 8   What result? Short version, the stuff that you'd

 9   expect to get faster got faster by about 20 percent. Worth

10   having an email about. Worth reporting that it was about

11   20 percent.

12   (Document displayed)

13   And then even for the '520, which is a smaller gain.

14   The '104, pretty dramatic. The '520, a somewhat smaller gain.

15   But even here for the '520 it was important enough for

16   Mr. Bornstein to report out at a conference and say:

17   "We save about 100k in memory by doing this

18   static initialization of an array."

19   And he acknowledged, significant enough to put in the

20   presentation. Of course, he had to acknowledge that developing

21   the code was worthwhile, otherwise it was wasted development

22   effort.

23   (Document displayed)

24   Why did Google do this? Why did Google adopt these

25   techniques? This is the goal. 750,000 activations a day of

1   Android phones. This was the motive to adopt these techniques.

2   This was the motive to not look along the way at Sun patents to

3   see whether adopting these techniques, knowing that we're kind

4   of targeting Java and Java's architecture, whether those

5   patents might be infringed.

6   (Document displayed)

7   That is acting recklessly. And what we know is that

8   Google did everything it possibly could have done to avoid

9   finding out the specifics of these patents.

10   (Document displayed)

11   First of all, they employed the key inventors,

12 Lindholm and Yellin. Yellin is on one of our patents.

13 Lindholm had coauthored a book in which one of the chapters

14 notes that the predecessor to the '104 patent covers the

15 technology that's described in that chapter.

16   It was so important to alert the world when that book

17 was written that there is a footnote. And you can see in TX

18 25, you can see in Chapter 9 the '685 patent mentioned. And if

19 you look at the '104 patent, you'll see that the '685 is the

20 predecessor to that patent.

21   (Document displayed)

22   And they worried about the Java patent along the way.

23 And so we asked Mr. Rubin in his deposition, and you heard the

24 videotape:

25   **"QUESTION:** When you wrote in an email, 'They

1   still have patents and trademarks,' what was

2   in your mind about what patents Sun had?

3   **"ANSWER:** Look, like I said before, I assume

4   they're running a business. They are

5   inventing intellectual property. They are

6   protecting it through the patent system.

7   Through GPL, I didn't know what they were,

8   but I knew it was dangerous to use the stuff

9   without knowing exactly what it was.

10   "So effectively you'd have to go back to Sun,

11   ask them what they considered their

12   intellectual property and, you know, try to

13   figure out what the trick was if you wanted

14   to use the technology."

15   (Document displayed)

16   Email after email, reports, concerns about Sun's

17   patents and about patent protection around the virtual machine

18   and the Android product. And they are looking at various

19   licenses and they are worrying about patent protection under

20   those licenses.

21   So TX 2714, they want to make sure they have patent

22   protection.

23   TX 22, they want to make sure they have patent

24   protection. And, of course, don't forget Rubin had this prior

25   life at Danger, that company that he founded in the early

1   2000s, and there was a license from Sun at Danger and it

2   included a grant of patent rights.

3   (Document displayed)

4   And then he's warning others, Watch out about Sun

5   patents.

6   In TX 18 he says:

7   "I don't see how you can open Java without

8   Sun since they own the brand and the IP."

9   And then there's is an announcement:

10   "Sun open sources Java Platform."

11   And Rubin says:

12   "Watch out. They still have patents."

13   And Rubin acknowledged that he had discussions with

14 Sun about patents relating to the virtual machine:

15   **"QUESTION:** You had discussions with Sun

16   about patents relating to the virtual

17   machine?

18   **"ANSWER:** Yes."

19   Now, in Phase One Google emphasized clean room and

20 independent development. And so you may have in your mind,

21 well, they had the clean room and the independent development.

22   You'll read the instructions. There's nothing in the

23 instructions that says a clean room matters when it comes to

24 patents. You can infringe patents even if you don't have them

25 over here, even if you're not studying them while you implement

```
 1   your software.

 2            And Mr. Rubin had to acknowledge this in testimony

 3   you heard in this courtroom:

 4            "A clean room approach doesn't protect

 5             against claims of patent infringement;

 6             correct, sir?

 7             "I don't think so.  No, it doesn't."

 8            Google went out of its way to avoid figuring out

 9   which car would hit it as it drove down the wrong way on the

10   one-way street.

11            Mr. Lindholm was asked:

12            "QUESTION:  Now, despite your experience,

13             your knowledge, your role as a project

14             advisor for Android, your role in the

15             licensing discussions, your participation in

16             meetings with Java engineers from Sun,

17             despite all those things, Mr. Rubin never

18             asked you to conduct any investigation to see

19             whether Android technology infringed any of

20             those patents; is that right?

21             "As far as I recall, no, he never did."

22            And then, of course, Google says, well, Mr. Lindholm

23   didn't actually develop code for Android.

24            Recall that he's a legal advisor to the team, among

25   other thing.  But Google's argument, uhm, why are you focusing
```

 1 on Lindholm? He didn't write any code.

 2   **"QUESTION:** My question isn't whether you

 3   participated in the design, development or

 4   architecture, but whether Mr. Rubin ever

 5   asked you, 'Tim, given all you know about

 6   Java virtual machines and Sun technology,

 7   could you please check and see whether we

 8   have done anything that might infringe one of

 9   those patents that you or one of your

10   colleagues had over at Sun'?

11   **"ANSWER:** Absolutely not. I don't recall

12   such a thing."

13   And then, of course, Mr. Rubin never conducted a

14 review of Sun patents. He never asked anyone on his team to do

15 a review of Sun patents.

16   And, so, their defense on willfulness is, we didn't

17 know. And it is a head-in-the-sand defense. And so here's the

18 ostrich with its head in the sand, not seeing the patents that

19 are all around, not seeing the '104 and '520 patents.

20   Google had choices. They could have taken one of the

21 licenses that Sun offered. And those licenses would have

22 included grants of the patent rights.

23   Google's argument in phase one was, well, we when we

24 were talking about license, we were talking about licensing

25 Sun's code.

1   Okay. They didn't do that. They didn't take Sun's

2   code. That was a choice they made. But there were other

3   choices. They could have taken the specification license.

4   And if you look at the Java Virtual Machine

5   specification, TX 25, it says that the virtual machine

6   specification is protected by patents, and the license includes

7   a grant of patent rights.

8   They didn't do that either.

9   They could have taken the GPL version of Java. That

10   would have granted patent rights.

11   There was a little back and forth with Mr. Rubin of

12   concern on his part that Sun might say the GPL didn't grant

13   patent rights, but he acknowledged that Sun had never said, oh,

14   the GPL, there's a gotcha, patent rights aren't included.

15   That wasn't why Google refused a GPL option. The

16   reason Google refused a GPL option, the open source option, the

17   Sun open source option, was because the GPL is viral, said

18   Rubin, and there's no way for the OEMs or carriers to

19   differentiate; we're building a platform where the entire

20   purpose is to let people differentiate on top of it.

21   Now, true or false doesn't really matter. We think

22   he's wrong about that. That's not the issue. The point is, he

23   had a GPL option. For business reasons, he didn't take it.

24   Now, there was a little confusion in Phase One about

25   the word "open," and so I want to just take this opportunity to

1 be really clear that the testimony of everyone on this point

2 was consistent. Mr. McNealy said it the most clearly:

3   "'Open' does not mean throw it over the wall

4   in a public domain rights equivalent to

5   ownership perspective."

6   You have to understand the hyphens in that sentence.

7 In a public domain rights-equivalent-to ownership perspective.

8   "We offered lots of our technology for free.

9   We offered it in terms of no revenue charge.

10   But it was almost -- in every case that I

11   know, of it was accompanied by a license.

12   And that license has certain conditions and

13   restrictions."

14   So if one of you is confused back during

15 deliberations, say, you know what, I heard all that testimony

16 about how Java was open, so how could Google infringe these

17 patents? I hope another one of you will say, yeah, but

18 remember, open doesn't mean like you own it. It doesn't mean

19 without restrictions. It's another way of making software

20 available under a license that grants rights and imposes

21 obligations.

22   **THE COURT:** Mr. Jacobs, I know you have an hour and

23 15 minutes total, but you have used an hour and five minutes.

24   **MR. JACOBS:** Thank you, Your Honor.

25   And so what did Google choose to do? They decided in

 1   advance what their options were.

 2   If Sun doesn't want to work with us, we will do Java

 3   anyway and defend our decision, perhaps making enemies along

 4   the way.

 5   Did Google try to cover up its infringement? That's

 6   one of the factors you'll see in the instructions.

 7   You recall many of these from Phase One. They were

 8   messages internally to the team about not showing Android to

 9   Sun employees or lawyers. Take a look at TX 29.

10   There was an impression left in Phase One that

11   through 2008 and 2009, Sun was not trying to get Google

12   licensed up.

13   There are more exhibits available in Phase Two.   In

14   2008, take a look at TX 530. Take a look at TX 1058 or

15   TX 1002. As late as November 24, 2008, Rubin writes that Sun

16   asked him to certify Android through the Java process and

17   become licensees of Java.

18   And then there were messages that you saw, such as

19   TX 406 in 2009, in which Google is worrying about lawsuits

20   relating to Java. And they are specifically thinking, you

21   know, maybe we better buy Sun and get the patents so our risk

22   of Java lawsuits goes away.

23   And then this fascinating exchange which you didn't

24   see in Phase One, but I urge you to take a look at it closely,

25   TX 531 and TX 1029.

 1   You have both ends of the equation. You have the Sun

 2   guys on the left, Cizek and Gupta, saying, you guys got to

 3   get -- you, Google, got to get licensed up.

 4   And Lindholm and Bornstein, people you have seen in

 5   this trial, they e-mail each other and they say, you know, we

 6   should step away from this discussion and only respond further

 7   if Sun chases after us.

 8   And then there were the meetings with Oracle in 2010.

 9   You heard about that through testimony. The acquisition occurs

10   in January. Larry Ellison meets with Eric Schmidt in March,

11   and then later with Larry Page. Thomas Kurian meets with Andy

12   Rubin and Alan Eustace in May. Safra Catz meets with Alan

13   Eustace.

14   And then you heard the stipulation that on July 20,

15   2010, Oracle told Google that Oracle believed Google was

16   infringing the '104 and '520 Patents, in a meeting held between

17   the two companies.

18   And then I asked Mr. Rubin: Right after that meeting

19   in which these patents are brought to your attention, you

20   didn't make any changes; right, sir?

21   He said: I didn't instruct the team to make changes.

22   And, instead, they looked at what their choices were.

23   And Mr. Lindholm told the executives, senior-most executives of

24   the company, that their only choice was to negotiate a license.

25   So now you know the whole story. Now you know that

 1 on July 20, 2010, there was a meeting. And these patents were

 2 presented. And two and a half weeks later, Mr. Lindholm wrote

 3 the message that said, we need to negotiate a license for Java.

 4   When you look at the instructions, you'll see some

 5 factors that go into willfulness. You know the facts that

 6 underpin each of these factors.

 7   Did Google act in accordance with industry standards?

 8 They did no review of Sun patents.

 9   You're going to hear how hard it was for Google to

10 look at all the patents in the world. But that's not the

11 issue. They were targeting Java. They should have looked at

12 Sun patents.

13   Did they intentionally copy? They were targeting

14 Java.

15   Did they present to you a reasonable defense in this

16 trial? They hid the facts from you. They hid the data object,

17 which is central to the operation of the software.

18   Did they make a good faith effort to avoid? You see

19 they didn't negotiate seriously for a license. They said, make

20 Sun chase us. And they tried to cover up.

21   That amounts to clear and convincing evidence that

22 Google acted willfully in infringing the '104 and '520 patents.

23   And so we hope that when you look at the verdict form

24 you will think about all this evidence and you will think about

25 how Google acted, and you will think to yourselves, you know,

 1 they really did drive down a one-way street the wrong way.

 2 They should have been -- they should have been more cautious.

 3 They shouldn't have acted recklessly. And you will answer yes

 4 to the questions of willful infringement.

 5   Thank you.

 6   **THE COURT:** All right. Thank you.

 7   This is a good time to take a 15-minute recess.

 8 Please remember the admonition. No talking about the case yet.

 9   **THE CLERK:** All rise.

10   (Jury out at 9:45 a.m.)

11   **THE COURT:** Please be seated.

12   Any issues for the Court?

13   **MR. VAN NEST:** I don't believe so, Your Honor.

14   **MR. JACOBS:** Nothing from us, Your Honor.

15   **MR. VAN NEST:** How much time do you have left on

16 rebuttal?

17   **THE COURT:** Six minutes.

18   All right. We'll take our recess now.

19   (Recess taken from 9:46 to 10:02 a.m.)

20   **THE COURT:** Thank you. Please be seated. Shall we

21 bring in the jury?

22   (Jury enters at 10:04 a.m.)

23   **THE COURT:** Please be seated.

24   Now, on behalf of Google, Mr. Van Nest will give the

25 closing argument.

CLOSING ARGUMENT

1

2   **MR. VAN NEST:** Thank you, Your Honor.

3   Good morning.

4   (Jurors respond.)

5   **MR. VAN NEST:** On behalf of everyone at Google, I

6   want to thank you all for your service as jurors. We talk

7   about sacrifice. And you made a big sacrifice, particularly a

8   long trial like this, with days like some of the days we've

9   had.

10   And I'll have to fess up to something. I have to

11   take indirect responsibility for Ms. Gonzalez not being here.

12   Just this morning, on the way here, I said to the team, guys,

13   it is unprecedented to be in a five-week trial and have not one

14   day anyone absent or anyone late. And so I should have knocked

15   on wood, but I didn't do that.

16   I want to thank, also, Ms. Lacavera and Mr. Hwang for

17   giving me the chance to stand up and present our evidence,

18   along with the rest of the team, on behalf of Google, because

19   that's a big thrill for us, too. And it's a real privilege to

20   represent a company like Google.

21   The evidence that you heard in Phase Two is clear-cut

22   and largely undisputed.

23   The features in Android that are accused are

24   fundamentally different from any of the claims of the '104 or

25   the '520 patents. They are fundamentally different.

1   They were designed from scratch by the Google

2 engineers, Mr. Bornstein, Mr. McFadden, and others. They were

3 built to work in a smart phone. They were designed without any

4 reference at all to the Sun patents. And that's now admitted.

5   The Sun patents weren't known by, shown to, no one

6 was aware of those Sun patents when Android was developed, when

7 Dalvik, dexopt, Resolve.c were built. None of them.

8   And, as a result of the differences between the

9 features and the patents, Oracle simply failed to meet its

10 burden to prove the strict test required for patent

11 infringement.

12   Now, Judge Alsup has told us over and over, this case

13 is not about Java versus Android. And that's absolutely right,

14 especially here in Phase Two, where we're dealing with two

15 specific patents, with some very narrow literal requirements

16 that have to be met, every one of them, and we're dealing with

17 some specific features in Dalvik and dexopt that are accused.

18   I'm not sure why Oracle is still talking about Java.

19 Anybody can use Java. The language is free. The compiler is

20 free. We know all that. This case is not about Java.

21   The '104 Patent doesn't even mention the word Java

22 once. Take a look. Not in there.

23   Now, you know by now, because Judge Alsup has

24 mentioned it several times, that the requirements here are very

25 strict.

1   In order to prove infringement, Oracle has to show

2   that every single element in the claims they're asserting is

3   found in Android. Every single one. I think we've heard:

4   Three out of four, not enough. Four out of five, not enough.

5   Four and a half out of five, not enough.

6   And you know now from the evidence that there are

7   really only three issues. And I want to get to them right

8   away.

9   One, the '104 Patent requires that symbolic

10 references be used in the instructions. It requires they be

11 used in the instructions.

12   And Android never uses symbolic references in

13 instructions. Never. Android uses numeric references, indexes

14 to locations in memory. We've proven that with every witness,

15 with every document, with every chart.

16   And I'm going to show you, take you through the

17 evidence one step at a time. There are no symbolic references

18 in the instructions in Android.

19   Two, the '104 Patent has a second strict requirement.

20 It requires that if you're going to resolve symbolic references

21 to numeric references outside of the instructions, that has to

22 be done dynamically. Not statically.

23   That's what the words of the claim have been

24 interpreted to mean. Dynamic not static.

25   Well, dexopt, as you saw over and over, is a static

1 operation. It's done during installation of the application on

2 your phone. It doesn't run when you're running the application

3 itself. It runs before. It optimizes the code. It's finished

4 when install-time is done. It never runs dynamically.

5   And the third key point has to do with the '520

6 Patent. The '520 Patent, everyone acknowledges, every step in

7 the method has to be there. And the method required of the

8 '520 includes simulating execution of the bytecode if you want

9 to identify the values in an array. Simulate execution.

10   Android doesn't use simulated execution. Android

11 uses pattern matching.

12   There isn't a word about pattern matching in the

13 patent. Pattern matching and simulating execution are two

14 different things. And it's now undisputed that what Android

15 uses in the dx tool is pattern matching. So there's no

16 infringement of the '520 Patent, either.

17   And we shouldn't be surprised that Android is

18 different. There isn't a shred of evidence that anyone at

19 Google or on the design team had any access to these patents.

20 There's not a single document. There's not an e-mail. Not a

21 memo. Not a presentation. The patents weren't found in

22 Google's files.

23   And they've now, essentially, admitted that until

24 July of 2010, July of 2010, even Oracle didn't mention these

25 patents to anybody at Google.

 1   This entire time period when Google was negotiating

 2 with Sun, talking with Sun, developing Android, publishing the

 3 source code on a website, putting the software development kit

 4 on a website, all this time, no evidence of any awareness,

 5 knowledge, or discussion of these patents.

 6   And, at the end of the day, I think you'll find that

 7 Oracle gave you very little to work with in the evidence. They

 8 didn't bring a single Sun engineer or witness to talk about why

 9 these patents were invented, what they do, how they work, any

10 of that. They rested their entire case -- their entire case

11 rested on Dr. Mitchell.

12   And Dr. Mitchell's testimony is simply not reliable.

13 Why? Not because he made mistakes. That's not the point. He

14 changed his opinion on the most fundamental issue in the case.

15   His opinion was that Android uses numeric references

16 in the instructions. After he saw Dr. August's report he

17 changed his opinion. His opinion changed on a fundamental

18 issue.

19   Now, he's said in court that was a mistake, but we'll

20 see, and you saw yesterday, he did it over and over and over

21 and over in his report. Why? Because these indexes that

22 Android uses are numeric references. They are references to a

23 location in a memory. They are not symbolic references, as

24 required by the patent.

25   So based on the evidence you've heard, I'm going to

 1   walk through patent by patent, feature by feature in Android,

 2   and demonstrate that the only verdict that is supported by the

 3   evidence in Phase Two is a verdict of non-infringement for

 4   Google on both of the patents.

 5   So here's the key points, and these are the same

 6   points that I mentioned in the opening. I've expanded them a

 7   little because we have more evidence.

 8   The first one is that Google made fundamentally

 9   different design choices for Android.

10   What's relevant here are the patents. You don't need

11   to talk about licenses. We don't need to talk about Java. We

12   don't need to talk about that. It's all about infringement.

13   Point one: The Dalvik does not infringe the '104.

14   Why? Two reasons. One, Dalvik does not use symbolic

15   references in the instructions. It always use numeric

16   references. And, two, when dexopt resolves outside the

17   instructions, it does it statically, not dynamically.

18   Two, the dx tool does not infringe the '520. Why? I

19   just said it. Pattern matching is different. The code is

20   different. The file that's used is different. The source code

21   is different. The operation is different. And Dr. Parr's

22   experiments prove that. So the '520 isn't infringed either.

23   Google independently developed Android, not knowing

24   of the Sun patents. That's virtually undisputed now, too.

25   They want to talk about a book Mr. Lindholm wrote ten years

1 ago, a footnote in a book? Come on.

2   And, three, Android does not use Sun's technology.

3 Android uses its own technology, developed by all the engineers

4 at Google over a three-year period, costing hundreds of

5 millions of dollars. And that's what's given us this Android

6 platform.

7   All right. Let's get to work, first, on what the

8 standard is in this phase of the trial. Very clearly, here it

9 is. You'll hear it from Judge Alsup when we're all done

10 talking. Oracle has the burden of proof on infringement.

11   They have the burden on every issue in Phase Two.

12 They have to prove it. If the evidence is evenly balanced, the

13 plaintiff loses. They haven't proven their case.

14   As I'm about to show, the evidence is not evenly

15 balanced. We proved to a fairly well that there is no

16 infringement because, again, Dalvik is different. We're using

17 a different technology.

18   Second key point: To decide whether the accused

19 product or method infringes, you have to compare that product

20 with the claim of the patent.

21   And what do you have to show? Every limitation of

22 the claim must be included in the accused product or method.

23 Every single one. If one is missing, that's it.

24   Let's start with the '104, because I want to get

25 right into the evidence and what the '104 is all about. And

 1 I'll say right upfront, Question 1 on the verdict form is the

 2 most important question in Phase Two. Question 1 is the most

 3 important question in Phase Two.

 4   What's the '104 Patent about? You have your

 5 handouts. Here's -- here's what you've had since day one. And

 6 they make clear -- it's not disputed -- the instruction set in

 7 the accused device must use symbolic references in the set.

 8 Said instructions containing one or more symbolic references.

 9 Said instructions containing one or more symbolic references.

10   There's no dispute about that requirement.

11 Dr. Mitchell conceded it. I asked him last week:

12   You'd agree with me whether you're talking about

13 Resolve.c -- that's one of the features they accuse of

14 infringement -- or dexopt, you've got to find a symbolic

15 references in the instructions, right?

16   Right.

17   Now, notice here, Resolve.c, that's a method in

18 Dalvik. Dexopt, that's a method in Dalvik.

19   There's no accusation here of a Java compiler. I'm

20 not sure why they're talking about the Java compiler.

21 Everybody can use a Java compiler. They are made by IBM. They

22 are made by GNU. They are made by Sun.

23   There is no accusation. Not even Dr. Mitchell claims

24 that using a Java compiler is anything wrong. That's not in

25 the case. I'm not sure why they even brought it up.

1   Now, what's the flip side of requiring using a

2   symbolic reference? The flip side is, if you use numeric

3   references only, you don't infringe. If you're using numeric

4   references in the instructions, you don't infringe. That's

5   pointblank concession from Dr. Mitchell.

6   If the instructions use only numeric references, that

7   doesn't infringe the '104 Patent, right?

8   Right.

9   That's established.

10   All right. What is a symbolic reference? Judge

11 Alsup has told us what a symbolic reference is. Now, this

12 definition -- and this is critical -- this is binding on the

13 parties in this lawsuit. It's binding on the experts in this

14 lawsuit. And it's binding on you as jurors in your

15 deliberations.

16   Oracle is playing fast and loose with this

17 definition, as we'll see in a minute. But what it is, in

18 simple terms, a symbolic reference is something -- a reference

19 that identifies data by a name other than the numeric memory

20 location of the data. It identifies data by a name other than

21 the memory location of the data.

22   So, a name. Remember in the opening, "The White

23 House," that's a name. "Y," that's a symbol. That counts as a

24 name. "X," that's a symbol. That counts as a name. But "1600

25 Pennsylvania Avenue," that's an address. That's a location.

1   If you're using locations in your instructions, you

2   do not infringe the '104. Why that? The '104 didn't invent

3   symbolic references or numeric references. It didn't even

4   invent resolving them. It's a very specific patent focused on

5   a very specific type of resolution. It requires that the

6   symbolic reference, before it's resolved, be in the

7   instructions itself.

8   And this is the definition that we all have to apply.

9   The patent gives us some background for that. In this

10   illustration in the patent, we see symbolic reference described

11   as "y."

12   Notice where it is. It's in the instruction

13   sequence. It's in the instructions. It's a "y." It's a

14   symbol. It's a name. It's a symbol. Why is that? It doesn't

15   tell you where the data is. You have to search.

16   As Dr. August said, if you get a "y" or an "x" or a

17   name, you've got to check all the references. Here it would be

18   all these boxes in the data object (indicating). Are you "y"?

19   Are you "y"? Are you "y"? And, finally, you find it.

20   That's resolution. That's different from a numeric

21   reference.

22   A numeric reference, there is no resolution required.

23   Why? Because all the numeric reference tells you is, where is

24   the location in memory? It doesn't tell you what data is

25   there. It makes no reference to the data there, other than

 1 slot 2.

 2   Here, the numeric reference is 2. It's in the

 3 instruction sequence. It's to slot 2. It's 1600 Pennsylvania

 4 Avenue. It's a location in a table.

 5   You don't have to guess where it is. And that's one

 6 of the reasons why that's what they used in Android. It's

 7 simple. It's faster. It's better.

 8   Let's look at the next slide.

 9   Now, Dr. Mitchell, before he got up here yesterday

10 talking about all these different -- the data is this value and

11 that value, it's really only the instance table value, and this

12 and that, this is what he said last week. Very simple. I

13 asked him:

14   As a matter of fact, that's what the Court's claim

15 construction does, it distinguishes between using names to

16 represent data and using numeric memory locations, right?

17   Yes. That's the distinctions.

18   That's about as clear as you get. All that's

19 required by the definition is, the symbolic reference has to

20 refer to data. It has to refer to data. Any data. Not

21 specific data. Not meaningful data. Not -- not the data we

22 ultimately want, but data. And that's what Dr. Mitchell said

23 last week.

24   All right. Now that we know what the rules are for

25 '104, let's go to the Dalvik bytecode.

1   Here's the key point.

2   Let's go back, Ben. Let's go back one.

3   Key point. They do not use symbolic references, the

4   bytecode instructions in Dalvik. And all the documents and all

5   the testimony and all the charts absolutely back that up.

6   Now, what are we talking about here with these

7   instructions? They are run in the dex file. The dex file are

8   Dalvik executable files that programmers write and compile into

9   code. And they are the applications that come onto your phone.

10   And they are run by the Dalvik Virtual Machine.

11   The point of this slide is just to tell you where

12   those are. They are not libraries. They are not in the

13   application framework. It's the dex files. And it's a very

14   specific part of the dex files: the instructions, the program

15   commands. That's what we're talking about when we're talking

16   about the '104.

17   All right. Here's Mr. Bornstein. He's the one that

18   created the architecture. He was shown a presentation. This

19   is an important one:

20   You've said in the presentation that dex files

21   contain symbolic references, correct?

22   I did.

23   Are the symbolic references in the bytecode

24   instructions themselves?

25   No, they are not.

```
 1              Now, that's important because they're been waving

 2   around a lot of documents saying, oh, boy, they admit that the

 3   dex files have symbolic references.  They admit that the dex

 4   files have symbolic references.

 5              That's irrelevant.  The question is, do the

 6   instructions themselves have symbolic references?

 7              We conceded in the opening statement that Android

 8   does resolve symbolic references to numeric references.  That's

 9   done in Android.  It's done in Dalvik.  It's done in Resolve.c.

10              Our point is, the symbolic references are never found

11   in the instructions.  And that's the requirement of the patent.

12   That's what Mr. Bornstein, here, is saying.

13              And why?  Because the way he designed the

14   instructions -- let's go to the next slide, Ben -- he wanted to

15   have a fixed width to his instruction registers.  He wanted to

16   be able to predict what would be in there.

17              If you're using addresses, you're using numbers as

18   addresses.  You can determine, I'm only going to need one, two,

19   three, or four slots.

20              If you're going to use names, like these string data

21   names, fill array data, block, character, you have all sorts of

22   things of different lengths.  And using a name doesn't work in

23   your instruction set if what you want is something really

24   efficient, where you can predict how many slots you've got.

25   That's exactly what Mr. Bornstein testified about.
```

 1   So let's take a look at some of the documents.

 2   Now, this is testimony under oath, but the documents

 3   that were written at the time back it up. This first one is

 4   Trial Exhibit 737. These are the Dalvik VM instruction

 5   formats. These are written back in 2007. They existed in the

 6   day. And they outline how the instructions work.

 7   And there's really no question about it. You guys

 8   will have this in the jury room. And page 3 has what we have

 9   up on the screen. And this shows you that what is being used

10   in the instructions is an index. There's an operand B and an

11   operand A. And there's an operand listed here as CCCC. And

12   we'll see in a minute, that's always a number.

13   In the instructions that's a number. What is it?

14   You see it on the right. It's a reference. It's an index to a

15   location in a field. The number represents the location.

16   Field@CCCC means location CCCC in the field table. That's what

17   these instructions are telling us. That's how they work.

18   And Dr. Mitchell is not disputing that. If you'll

19   look at his slide, this is one that he prepared and I showed

20   him during my examination.

21   In his example, the instructions contain the numbers

22   0000. What is that? That's an index to a location in the

23   field table. He shows it himself in the slide. He's pointing

24   to 0. That's the location in the field table where whatever

25   data is there will be found.

1   It's not symbolic because it's not representing any

2   particular data. It's only representing a numeric location.

3   Here, location 0 in that particular table.

4   Let's look at another exhibit. Again, from back in

5   the day. This is some of the source code. Now, gosh, I don't

6   expect you to pour over the source code, but the source code

7   here, which is 46.106, has the format of the Dalvik

8   instructions.

9   And at line 57, you see the same format that we saw

10   in Trial Exhibit 737. "Thing@CCCC." Why does it say "@"?

11   "Thing@." It says "@" because it's a location. It's a

12   location in a memory table. Why else would you use "@"?

13   "Thing@CCCC."

14   Now, Mr. McFadden explained these. He's explaining

15   22c. That's the set of instructions you just saw. They can be

16   used for different types. They both take three arguments. And

17   some of them will take a type index. Some of them will take a

18   field index. And, again, an index is a location in a table in

19   memory, correct? Yes.

20   Now, what's critical about indexes? Indexes aren't

21   symbolic references. You heard Mr. Jacobs say one of the

22   hallmarks of a symbolic reference is it has to be resolved.

23   That's because you have to search for it.

24   Indexes never have to be resolved. That's what

25   you're seeing here from Mr. McFadden. They don't have to be

 1 resolved because they point you to a memory location and you go

 2 right there. There's no ambiguity. There's no guessing. This

 3 is what he says:

 4   Are indexes in this process being resolved?

 5   No.

 6   Why not?

 7   Well, resolution implies something is unknown,

 8 something is ambiguous. If you have an index, you know exactly

 9 where you're going. You have the location.

10   You have the location. That's the point of

11 Mr. McFadden's slide. And we stand behind every word on this

12 slide.

13   And to say something was concealed, remember, Android

14 is open source. Anybody can look at this anytime. This is all

15 part of the source code that can be found by anyone.

16   What's the point of this? Everyone concedes that in

17 Dalvik the instruction set always contains numbers.

18   Now, is it our point that numbers can't be symbols?

19 No. We've never argued it. That's not the point.

20   The numbers in the instructions are indexes to memory

21 locations in a table. Just like Mr. McFadden's chart shows.

22 The "01" is the position 1 in the Field ID table. That's what

23 it is. As you'll see in a minute every witness has confirmed

24 that.

25   And when you go to Field ID 01, you don't know what

 1 you'll find. This is not a reference to any particular data.

 2 It's a reference only to this location (indicating).

 3   When you get to the location, guess what? You find

 4 more data that is numeric references, because this "2" in the

 5 Field ID table is a location in the String ID table. That's

 6 where you go next. And the "76" is a location in the String ID

 7 table. These are numeric references.

 8   You don't know -- when you get the 2, that doesn't

 9 tell you what the data is, what information you're going to

10 get. It just tells you go to position 2 in the String ID

11 table.

12   And when you get there, guess what happens? When you

13 get there, you're given an offset. This is an offset 8 in the

14 String Data table. And you go to offset 8, you get a name.

15   Now, the point is that in the instructions, right

16 here, the only thing that Dalvik ever uses -- and we see this

17 in the formats, in the source code, and we'll see it again in

18 some dexopt docs -- the only thing they ever use are indexes to

19 locations in memory. That's a numeric reference, not a

20 symbolic reference.

21   Now, why did I fade this out? I faded it out because

22 the only relevant question is, what does this instruction do?

23 That's the only relevant question.

24   This stuff is all in the data. This stuff is all

25 happening in the data.

1   What you're told in the claim, in Claim 11 and every

2   other claim, is that the instructions must contain symbolic

3   references. So this is the question you ask, right here. You

4   don't need to ask about any of these (indicating).

5   Now, Mr. McFadden showed you the whole thing. This

6   is what you saw in Mr. McFadden's presentation. We didn't blow

7   this up, but you certainly saw this.

8   Eventually, "fun" is resolved because it is a name.

9   It is a symbol. But it's never in the instructions. And it's

10   resolved to another reference, which is then put in this field

11   table.

12   But, again, in order to infringe the patent, you have

13   to use something like "fun" or some other symbolic reference;

14   "x," "y," "fun," "byte," "character." You have to use them in

15   the instructions. Right here (indicating).

16   They're not there. They are never there. And every

17   witness confirmed that.

18   Let's take a look at some of the additional -- let's

19   go back to a document here.

20   This is a set of instructions for dexopt. This is

21   Trial Exhibit 47.2. This is some of the source code. Look at

22   it again. It says the same thing. Dexopt instructions are the

23   same as Resolve.c.

24   Field@CCCC, you see it right there in line 621, these

25   all have the form op vA, op vB, field@. And then they tell you

1 what it is. CCCC is the field reference constant pool offset.

2 CCCC is a number. It will be a number in the instructions,

3 like this number, and like the field reference that

4 Dr. Mitchell showed, 0000.

5   These are comments in the code. These aren't made up

6 for the litigation. This has existed for years. This was

7 written back in 2007, when Dalvik was created.

8   Here's another one. This was -- this was from Trial

9 Exhibit 739. This was written by Mr. McFadden back in 2008.

10 Again, this has been around. You'll have this in the jury

11 room. This describes Dalvik optimization. This is dexopt.

12   If you look through this, you'll also find what we

13 now have on the slide, that in the instructions in the dexopt,

14 it's the same thing. We replace a method index with a vtable

15 index. We replace a field index with a byte offset.

16   Indexes are these numbers that reference a location

17 in a table. That's what an index is. That's the only thing

18 that these instructions use. And they use them because that's

19 the way they were designed to work. They wanted something in

20 the instructions that could point you quickly to a specific

21 location, and then to another.

22   And, finally, the resolution happens outside of the

23 instructions, and that's the way Dalvik was set up to work.

24 That's different than what is required in the patent.

25   Now, here's the testimony. This is a question that

 1 | Dr. August answered on Friday, in response to a question from

 2 | Judge Alsup. He said:

 3 | Are you saying that in the Android instructions,

 4 | you've looked at them and you never find an "x" or a "y," it's

 5 | always a number?

 6 | I've looked at every implementation of the

 7 | instructions, and I can say with certainty that there is not a

 8 | symbolic reference in the instructions.

 9 | You'll never see "y" or "x" or "z" referring to data

10 | by name other than a memory location, in the instructions

11 | themselves.

12 | He said it again on the stand yesterday. Let's look

13 | at the next one.

14 | Are there symbolic references ever in instructions?

15 | No. I've looked at all the formats.

16 | The formats he's talking about are the formats that

17 | you'll have, too. It's these exhibits that we looked at, 739,

18 | 735. These show the same thing that he looked at. I have

19 | looked at all the implementation of the instructions, and I can

20 | say with certainty that the instructions do not contain

21 | symbolic references.

22 | Let's look at what Dr. Mitchell says, because he

23 | admitted that the indexes that Dalvik uses are references to

24 | locations in tables. Here was the first example he put up in

25 | his direct exam. And I put it up the way he did, but I put a

1 red circle around "classIdx" because that's what he defined as

2 the infringing feature in Resolve.c, was classIdx. He says

3 resolve.c finds class name using classIdx. ClassIdx is in the

4 instructions.

5   Well, I asked him -- next slide -- doesn't that give

6 you a location in another table?

7   Yes. It's a location in another table, just like

8 this instruction gives you a location in the Field ID table.

9 That's what it is.

10   He said it in his report. He said it in his report.

11 Let's take a look at the report. He said it over and over.

12 This is in his opening report. He says:

13   The function dvmResolveClass determines or resolves

14 symbolic references, class names -- that's what he said in the

15 report -- to numerical references like indexes.

16   That's not a mistake. You can understand why he

17 would say that. These indexes are numeric references. That's

18 how computer scientists think of them. That's what they are.

19 Because they're references to locations in tables. That's what

20 he said in his report.

21   And I asked him -- next slide -- it didn't happen

22 just once. It's over and over and over in his opening report.

23 And I'm not saying it's a mistake. He's saying it's a mistake.

24 I'm saying he changed his opinion.

25   Take a look at this. The first one, classIdx. The

 1   second one, methodIdx. The third one, stringIdx. These are

 2   all indexes.

 3   These are the things that Android uses in the

 4   instructions. And if your instruction is a numeric reference,

 5   you don't infringe.

 6   That's why he had to change his opinion. After he

 7   understood from Dr. August's opinion that these references have

 8   to be in the instructions, he realized he was dead in the water

 9   with this. And, hence, he came in here and said, no, no, no

10   they're symbolic references. That's just a mistake.

11   It happened repeatedly in his opening report.

12   Let's look at another example. This isn't from his

13   report. This is from his testimony. Another example he gave

14   of so-called infringement was, you're using the ifieldIdx.

15   That's another index. He said, Android is using that in its

16   instructions, and that's a symbolic reference.

17   Well, an index is not a symbolic reference. It's a

18   location in a table.

19   Next slide, please. This is what he said. And look

20   at the graphic that I used with him. This was his graphic. He

21   chose not to show it, but I asked him:

22   What you're showing here is the field Idx -- that's

23   field index; idx means index -- pointing to a specific location

24   called 0000 in the field table, right?

25   Yes.

1   Position 0, that's a position in a table?

2   Yes.

3   His graphic backs it up. Those zeroes are pointing

4   somewhere. Symbolic references don't point anywhere. They

5   have to be resolved. They require a search.

6   A location reference like this is numeric. That's

7   how the Court has defined it. That's crystal clear.

8   More examples from the report. I wouldn't criticize

9   someone for making a single mistake. My point is, these are

10 not mistakes. These are his opinion, that references like

11 indexes that are what Android uses are numerical references.

12   If these indexes are numerical references, there is

13 no infringement of the '104 by either dexopt or Resolve.c.

14   Here's three more examples we haven't seen yet.

15 Method ID. Field ID, we've seen that. String ID index. All

16 considered numeric references.

17   What's going on with this switch, and what are they

18 doing with these statements about meaningful data?

19   Here's the claim construction. The claim

20 construction says, a reference that identifies data by a name

21 other than the numeric memory location of the data, that is a

22 symbolic reference.

23   If you're using the numeric memory location, then you

24 are a numeric reference.

25   They don't want to accept that. Dr. Mitchell can't

1 live with that because he's called these indexes numeric

2 references. He wants to take the word "data" out and rewrite

3 it. He wants to say, no, no, no, data actually means the

4 actual field data in the instance object.

5   He's changed the claim construction in order to fit

6 his opinion in with the evidence. The evidence doesn't worth

7 this. He wants to replace the word "data" in the Court's claim

8 construction with something else.

9   This reference only points to here (indicating). And

10 he's admitted that. And every witness, every document, every

11 presentation at the time proves this. And the only way he can

12 escape that is by saying, well, wait a minute, we're not just

13 talking about this data, we're talking about something really

14 specific, the actual field data in the instance object.

15   What would that do if that were accepted? If that

16 were accepted, there would never be a numeric reference.

17 Everything here would be symbolic because there's only one

18 place where this actual field data is found. You would turn

19 computer science on its head with this.

20   But there's another reason why this is unacceptable,

21 and that's, the instructions from Judge Alsup don't allow it.

22 If a witness has based his view on meanings of the terms

23 contrary to my stated definitions, you should discount that

24 part of his testimony accordingly.

25   That's what's going on with all this talk about

 1   meaningful data or the actual field data.

 2   Let's resolve it back to the Court's claim

 3   construction, if we can, please. That's the claim construction

 4   that we're all bound to follow.

 5   Dexopt. Dexopt, just like Resolve.c, only uses

 6   indexes in the instructions. So for the same reason that

 7   Resolve.c does not infringe, dexopt doesn't infringe.

 8   But there's a second reason that applies to dexopt.

 9   There's another reason. And that is that dexopt, when it does

10   resolve symbolic references outside of the instructions, does

11   it statically. And that doesn't count. That doesn't infringe.

12   Let's take a look at the next slide. Here's the

13   judge's construction of symbolic reference. Now, we're focused

14   on the second half of it. A symbolic reference has to be

15   resolved dynamically rather than statically.

16   And, by the way, they're the ones that want to claim

17   that dynamic equals runtime. That's exactly what Dr. Mitchell

18   said.

19   Our point is that dexopt is a static operation

20   because it runs before you actually run the application on your

21   device. It's static, not dynamic. It's done before you

22   actually run it on the device.

23   So let's look at what Dr. Mitchell says about this.

24   He concedes that if a function is performed statically, then

25   dexopt doesn't infringe either. Right? Right.

1   So if it's static, no infringement.

2   What's going on with dexopt? Let's bring this back

3 to how we would use a phone.

4   Now, I don't have my Amazon application. Remember my

5 Amazon application? I had an example in Phase One. A

6 programmer wrote an application. So we can shop Amazon and

7 compare prices.

8   I don't have it on my phone, but I would like to get

9 it. So I go to the Android Market. A little advertising,

10 obviously, but I'm going to do just a little bit here.

11   Go to the Android Market, and I'm going to download

12 this application. What gets downloaded on my phone?

13   Well, you get a dex bytecode file from the Android

14 store. And that comes on to my phone through dexopt. And

15 dexopt optimizes it right then and there, before anyone is

16 using it. It's optimized during install-time.

17   And Mr. McFadden explained why this was the case. We

18 asked him:

19   At a high level can you please explain to the jury

20 what dexopt does?

21   It generally prepares a dex file for execution.

22   Dynamic means when you're executing the file. It

23 prepares a dex file for execution. This requires extracting

24 it, downloading it from the Android Market, attempting to

25 verify the codes there, and then performing a set of static

 1 optimizations.

 2   This is the best explanation we have anywhere in the

 3 record of what dexopt does. It works on the application when

 4 it first lands on your phone and is being installed.

 5   Let's finish the -- let's go back to the animation.

 6   Then dexopt finishes its work, and the program, the

 7 dex file is put into your memory. You may use it a week later,

 8 a day later, a month later. You may never use it. Some of

 9 these apps are free. You get them. You never use them.

10   Now, that is install-time. That's when dexopt runs.

11 That's why every single document that we'll look at in just a

12 minute says it's a static operation. It's not running when

13 you're running this application.

14   Now, let's take -- now we've got it on our phone with

15 all my other apps. I implement it, bring it up. And memory

16 puts it through the Dalvik Virtual Machine into my processor,

17 and I can use my application.

18   Dexopt never comes into play there. Dexopt has

19 already finished its work. It is not a dynamic operation in

20 any meaning of the term, whatsoever. And the testimony and the

21 documents back that up, too.

22   Here is what Dr. August said about it:

23   Why do you characterize dexopt as doing resolution

24 statically rather than dynamically?

25   Dexopt is doing static linking. It runs and must run

 1 before the program executes. That is static, before the

 2 program executes.

 3   Mr. Bornstein, he's the one who was involved in

 4 developing dexopt along with Mr. McFadden.

 5   Does static linking occur when the program is

 6 running?

 7   No. It happens during install-time, which is before

 8 it would run.

 9   McFadden is the author of dexopt. He says the same

10 thing.

11   Does dexopt ever run at runtime?

12   It doesn't run at runtime.

13   Let's go back to in the day. Let's go back to 2008.

14 What did Mr. Bornstein tell us? When he describes dexopt,

15 which is what he's describing here in Trial Exhibit 816, he

16 describes it as an example of static linking.

17   The resolution, that's the linking. The resolution

18 of references from symbolic to numeric in dexopt -- which,

19 again, happens outside the instructions -- is done statically.

20 That's what he said.

21   And the slide that he was discussing that was created

22 back in '08 is this slide right here: Install-Time Work.

23   What's install-time work? Static linking is one of

24 the things done at install-time, not runtime.

25   Now, they tried to show you a partial quote. The

1   lawyers did this. This is the quote they showed you during

2   Dr. Mitchell's examination. This is the same quote. They

3   started it with the words "when a dex file arrives." Let's see

4   what they left out.

5   That's what they left out. The most important phrase

6   in the presentation. "So as an example of static linking."

7   That's not fair. And the evidence all supports that

8   dexopt is static.

9   Here's Trial Exhibit 735. This is bytecode for the

10 Dalvik VM. Boy, there's a thriller.

11   (Laughter)

12   You'll have this one back in the jury room. It was

13 written in 2007. It existed in the day. Nobody made it up for

14 this case. And it explains exactly that dexopt is an

15 install-time static linking optimization.

16   That's what it is. That's what it is. That's what

17 it is.

18   This is better than reading source code, I can tell

19 you that.

20   Now, that's not the only one. If you go to page 6 on

21 735, you see some more examples. Here's some of the

22 instructions that they use in dexopt.

23   What are they? The opt codes are recognizable -- I'm

24 sorry, these opcodes are reasonable candidates for static

25 linking. Static linking is what happens in dexopt.

1   There's actually a letter for it. There's a letter.

2   The letter "s" stands for static. This is Trial Exhibit 737.

3   We saw that a little bit earlier. It actually says right on

4   the first page, "Suggested static linking formats have an 's'

5   in the suffix." Have an "s" in the suffix. "S" means static.

6   So you can see there the instruction in the

7   instruction line has a "cs." And to the right it says,

8   "Suggested format for statically linked field access."

9   Mr. McFadden puts a point on it.

10   Does dexopt operate when the Dalvik bytecode is

11   actually executing?

12   No.

13   Is that why you use the term -- why you say it's not

14   a dynamic process?

15   That's right.

16   Now, Dr. Mitchell relied on one document, and,

17   really, one document only. But he misinterpreted that. Here

18   it is. This is Trial Exhibit 739. There's the sentence. This

19   is talking about the ways in which we optimize code.

20   And it says, "Some of these require information only

21   available at runtime." And that's what Dr. Mitchell relied on.

22   But look at the rest of the sentence, "Others can be

23   inferred statically when certain assumptions are made."

24   That's dexopt. That's what Mr. McFadden explained in

25   the next slide, during his testimony. We asked him:

1   "'Others can be inferred statically when certain

2   assumptions are made,' what does that referring to?" That was

3   Mr. Kamber's question, not mine. What does that referring to?

4   That's referring to the things dexopt can do. That's

5   referring to the things dexopt can do. So let's not take

6   documents out of context.

7   What does this add up to? I'm going to leave this up

8   for a minute.

9   There is overwhelming evidence on Question 1 that the

10   Android features don't come close to infringing the '104

11   because they do not use symbolic references in the instructions

12   and because dexopt is static.

13   What am I talking about? On the left, I have

14   Dr. Mitchell. That was the entirety of the Oracle testimony on

15   infringement on the '104. It's all on Dr. Mitchell.

16   Look at what's on the right. Dr. August explained

17   how this works in detail. Andy Bornstein came in here and

18   explained how it worked. Mr. McFadden came in here and

19   explained how it worked.

20   I'm showing up here Trial Exhibits 46.6, 46.12,

21   46.106. Those are all source code that you're welcome to look

22   at. They all show that indexes are what are being used in the

23   instructions. Indexes are references to locations in memory.

24   Trial Exhibit 47.2. Trial Exhibit No. 47.6. More

25   documentation written back in the day. These are all

1 documentation of how the source code works.

2   735. 737. 739. Those were the three that I held up

3 because they are something other than source code that we can

4 actually read and is in English. That confirms how these

5 instructions work. Every single one of these.

6   Even Dr. Mitchell's expert report, which you don't

7 have in evidence but which you saw repeatedly, his expert

8 report takes a position that indexes like field index, class

9 index, string index, are all numeric references that equals

10 non-infringement.

11   And that's why I say the evidence supports only one

12 verdict on Question 1, whether you're talking about dexopt or

13 whether you're talking about Resolve.c. Since there are no

14 symbolic references in the instructions, and since dexopt is

15 not a dynamic operation, Oracle failed to meet their burden of

16 proof. And they failed by a mile. They failed to meet their

17 burden of proof.

18   The evidence not evenly balanced.

19   Let's go back a slide, Ben.

20   The evidence is overwhelmingly, through the exhibits,

21 the presentations, the slide decs, the source code and the

22 witness testimony, overwhelmingly supports a verdict that there

23 is no infringement.

24   And if there is no infringement, you don't need any

25 other defense. I don't know why they are talking about fair

1   use, licenses, open source. That's irrelevant.

2   If there's no infringement, there's no infringement.

3   It's an absolute defense to a claim of patent infringement they

4   have the burden of proof on.

5   I never got up and talked in the opening about open

6   source. I never got up and talked in Phase Two about licenses

7   that we did or didn't have. You guys know the story about

8   that. We dealt with all that in Phase One.

9   Let's talk about the '520. The parties both spent

10 less time on the '520. It involves a very sort of

11 insignificant feature. The '520 deals with only one thing.

12   You heard about these arrays that are a list of

13 numbers. They have to be organized so that they don't slow the

14 whole system down.

15   If you've got a long list of arrays with lots of

16 values in them, they've got to be initialized. So someone --

17 the device, your dx tool in this case, something has to

18 initialize that array.

19   This patent is focused on and limited to a very

20 specific form. It's the form called simulating execution of

21 the bytecodes by the clinit method.

22   Now, again, as Dr. Mitchell testified yesterday, in a

23 method claim like this one -- it says a method -- every single

24 step in the method has to be met.

25   It's not good enough that you get the same result.

1   It's not good enough to get the same result, because both

2   systems admittedly initialize arrays. The patent does and

3   Dalvik does. The dx tool does. That has to be done in a

4   system using bytecodes where there are arrays.

5   The issue is, how do you do it? What's the process?

6   The process in the dx tool is different.

7   Dr. Parr was the lead witness on this, along with

8   Mr. Bornstein. And we asked him:

9   What's the core requirement you need in order to have

10 simulation of execution of a -- on a stack machine?

11   A Java-based device is a stack-based device.

12   And that's what the '520 is talking about. And he's

13 testified there's no meaningful definition -- let's go back --

14 no meaningful definition of a stack machine, of simulating

15 execution of a stack machine without manipulation of a stack.

16 And that means pushing, popping, and things like that.

17   And the examples in the patent confirm it.

18   You'll have the patent. It's TX 4011. It's the '520

19 Patent. I'm showing you something here from Column 6. That's

20 in the discussion of the invention.

21   **MR. JACOBS:** Objection, Your Honor.

22   **THE COURT:** What's the objection?

23   **MR. JACOBS:** I think we're reading the specification

24 into the claim.

25   **THE COURT:** What is your answer to that?

1   MR. VAN NEST: I haven't said a word about that, Your

2   Honor. I called this an example. It's an example in the

3   patent. That's all I'm -- it's certainly background relevant

4   for the determination of this claim.

5   THE COURT: Well, here's the basic rule on that. The

6   patents -- most patents have examples. The law is quite clear

7   that the patent cannot be limited just to the examples. But

8   what is allowed to be the claimed invention for which the

9   patent holder has protection is what's stated in the claims

10   themselves.

11   So with that understanding, you can go ahead and

12   refer to the parts of the patent that are in evidence. And the

13   jury is entitled to read them in the jury room. But the jury

14   will keep in mind that they are only examples, and that the

15   patent claims are not limited to the examples.

16   Please, go ahead.

17   MR. VAN NEST: Now, you'll notice that there's no

18   reference anywhere in the '520 Patent, in the examples, in the

19   claims, or anywhere, to the phrase "pattern matching." Pattern

20   matching never appears anywhere in the '520.

21   What does appear is the words "simulated execution."

22   And in this example of simulated execution, it's talking about

23   creating a stack, starting with an empty stack and pushing on

24   to the stack. That's what this example discusses.

25   And Dr. Mitchell confirmed exactly that, that this

 1 ║example talks about using the stack as part of the play

 2 ║execution performed?

 3 ║   Yes.

 4 ║   Now, this isn't what goes on in Android. You know

 5 ║that now because it's conceded that Android's dx tool uses

 6 ║pattern matching.

 7 ║   Simulated execution is what the patent requires.

 8 ║That's on the left. And Android uses pattern matching. That's

 9 ║how Android identifies the values in an array.

10 ║   And Dr. Mitchell conceded that Android does appear to

11 ║use pattern matching. I said:

12 ║   The dx tool uses pattern matching, right? There's an

13 ║element of that.

14 ║   Yes.

15 ║   There's an element of the dx tool that uses pattern

16 ║matching?

17 ║   Yes, I would say there's an element of the dx tool,

18 ║an element of pattern matching in the tool.

19 ║   So their own expert confirms that Android uses

20 ║pattern matching and so does the source code.

21 ║   Trial Exhibit 46.17 is from parseNewarray. And

22 ║parseNewarray describes what it's doing as trying to match the

23 ║array initialization's idiom.

24 ║   It's matching. We are looking. We are expecting the

25 ║following pattern repeatedly. That's what we're looking for.

 1   This is in the source code that was written at the time.

 2   And Mr. Bornstein came in and explained what that

 3   means. He picked up on that line:

 4   Try to match the array initialization idiom. I see

 5   that.

 6   Does that simulate anything by manipulating a stack?

 7   It doesn't.

 8   What does it do?

 9   It does a pattern match.

10   Dr. Parr confirmed this. He actually ran some code

11   through the dx tool. He created some code that was in the form

12   of an array. And he analyzed it. And he found no stack

13   operations.

14   He testified that that means we are not simulating

15   execution of the bytecode, because that's the only way to do it

16   in a stack-based system.

17   He did another experiment, which I want to touch on

18   for a minute, that absolutely proves that pattern matching is

19   what the dx tool does.

20   What was he doing here? In pattern matching, you are

21   looking for a pattern of these images (indicating).

22   For example, if we're going to create an array with

23   1, 3 and 5 as our values, the pattern knows to look for a 1, a

24   3, and a 5.

25   Simulated execution doesn't care what's there. It

 1 | just simulates whatever shows up. So his test was the

 2 | following: Let's put a dummy variable in there with a value of

 3 | 0.

 4 | Well, there is no 0 on this array. If you're

 5 | simulating execution, which is what the patent requires, this

 6 | will work just fine. It will simulate the whole thing. It

 7 | will throw out this 0. And it will put the 1, the 3, and the 5

 8 | right there in the register, which is where you want it.

 9 | That's what simulated execution does.

10 | If this is pattern matching, he said, it won't work.

11 | It will fail.

12 | Why will it fail? The pattern is looking for a 1, a

13 | 3, and a 5. It can't handle 0. It fails.

14 | Remember the word he used? It's in the source code.

15 | "Punt." It punts. When a pattern match fails to find the

16 | right pattern, it punts.

17 | And that's exactly what happened in his experiment.

18 | It punted. That means it's not simulating execution of the

19 | bytecode. It is pattern matching.

20 | And that was unrebutted. Dr. Mitchell, unrebutted.

21 | No experiments on his part. No response to this, other than

22 | hand waving about a simulator class, which I'll get to in a

23 | minute.

24 | This is the exhibit that we showed with Dr. Parr.

25 | Mr. Paige presented this. On the left, when the pattern

 1 matcher works, you get a nice, neat row of values, 5, 4, 3, 2,

 2 1.

 3   That didn't happen with his experiment because the

 4 pattern matching failed, and, therefore, it didn't generate

 5 what you'd expect.

 6   Now, I want to talk about hand waving. You saw a lot

 7 of hand waving with the simulator class. Simulator class.

 8   Next slide, please.

 9   Dr. Parr and Mr. Bornstein concede that there is

10 simulation going on in the dx tool. Just in interpreting

11 bytecode, dx uses simulation. It uses simulation a lot.

12   The one place it doesn't use simulated execution,

13 though, is the only one that's relevant. When it comes to

14 simulated execution, the simulator class calls into a different

15 class, parseNewarray.

16   Let's look at the next slide.

17   ParseNewarray is 46.16, TX 46.16. The simulator

18 class -- I'm sorry. The simulator class is 46.16.

19 ParseNewarray is 46.17.

20   The code is different. Dr. Mitchell said it

21 yesterday. Different method, different code, different file.

22   So the one place in the dx tool where simulation does

23 not occur is in finding the values, identifying the values in

24 an array. And that's why there's no infringement.

25   The '520 requires simulated execution. That's what

1   is required. Simulated execution of the bytecode.

2   Android uses pattern matching. Pattern matching is

3   mentioned nowhere, not a word of it, anywhere in the patent.

4   And it's done in Android in a completely separate file from the

5   simulator file, which is what Dr. Mitchell admitted yesterday,

6   again, and last week as well.

7   So what's the score on the '520? Again, the evidence

8   strongly favors, strongly favors non-infringement. It's not

9   balanced.

10   Again, the only testimony that was presented by

11   Oracle was Dr. Mitchell.

12   You have on the other side the patent itself, which

13   doesn't mention pattern matching. Not a word about it.

14   Mr. Bornstein's testimony. Dr. Parr's testimony. Dr. Parr's

15   first experiment, where he checked to see whether there were

16   any stack operations. The second experiment which we just

17   visited. The trial exhibits, 46.16. That's the simulator

18   class that they want to talk about. But the pattern matching

19   goes on in Trial Exhibit 46.17.

20   Again, the only verdict supported on the '520, based

21   on this evidence and the application of the law, is not proven.

22   Failed to prove that the dx tool meets every limitation, every

23   step in the method described in the '520.

24   Now, I think that's where your deliberations will

25   end, because if you answer Question 1 "no" and question 2 "no,"

1 you don't even go on to Question 3. There can't be willful

2 infringement unless there's infringement in the first place.

3   As I said, the evidence that you've seen through the

4 witnesses and trial exhibits is overwhelming that they didn't

5 prove their infringement case to start with.

6   But, like I said in Phase One, as Google's lawyer, I

7 can't leave any stone unturned. I'm going to spend a few

8 minutes talking about willful infringement in case you get

9 there.

10   My first point is, willful infringement is a very

11 high bar. Judge Alsup mentioned it a moment ago. It requires

12 you to determine by clear and convincing evidence that Google

13 was reckless. Clear and convincing evidence. That's a higher

14 standard than a preponderance. So here the standard is high.

15 Higher than a preponderance. The evidence has to be crystal

16 clear.

17   Now, let's think about this for a minute because you

18 have some information about what went on between these parties,

19 to evaluate this already.

20   Nothing about Android was ever secret. Google

21 negotiated for about a year with Sun and described all along

22 the way exactly what Android was going to be. Java Language.

23 Java APIs. That was clear as a bell.

24   Android was public. Published on a website in

25 November of '07. The source code was published when the

 1 handsets came out. Everybody in the world could look at it.

 2   But what was Sun's reaction when Android came out?

 3 Well, we all remember that. The rocket. The rocket. Come on.

 4 These are the people now claiming that somehow we willfully

 5 infringed?

 6   They have known about every detail of Android for

 7 years. And when it was first launched, their reaction wasn't,

 8 Oh, you're a terrible infringement. Oh, my gosh, you're using

 9 our technology. Oh, this is awful. It was, Congratulations.

10 Welcome. Thank you. You've put a rocket on to Java.

11   How could you possibly meet even a preponderance

12 standard to prove willfulness with that kind of evidence and

13 that kind of history?

14   That doesn't stop there. We now know -- let's go

15 back one. We now know, by the way, this blog is the official

16 page of Sun.

17   Remember the 10-K? The 10-K is Exhibit 974. It's

18 too heavy to bring up here so I didn't bring it up.

19   But 974, through Mr. Sutphin we established that they

20 actually represent to the United States government that

21 Mr. Schwartz' blog and any blog that their CEO publishes is a

22 material statement of the company. So this was nothing --

23 nothing personal for Mr. Schwartz.

24   Not just that, they worked with Google to build their

25 own products on Android. Remember the demonstration that Eric

 1 Klein did at JavaOne in '08, where he said, We're going to run

 2 JavaFX on Android?

 3   I mean, if you're infringing technology and somehow

 4 you're wrong, or you're willfully ignoring something, why in

 5 the world would they be in there working with Google to put

 6 JavaFX on Android?

 7   These patents weren't even discussed -- they've

 8 admitted that -- until July 20, 2010.

 9   Look at this history. They've stipulated to this.

10 And Mr. Jacobs referred to it in the opening.

11   How can you willfully infringe something that you're

12 unaware of, that no one has called out? That's the whole point

13 of willful infringement. Right?

14   '05, '06, '07, '08, '09. Parties were working

15 together. Parties are talking. Everybody knows what Android

16 is.

17   It isn't until July 20, 2010, that they first, for

18 the very first time, said, here's these two patents that you're

19 violating. And then they filed their lawsuit three weeks

20 later. That's it. Three weeks later.

21   And they don't -- they're not taking a position that

22 the '104 was known to Google, or the '520 was known to Google.

23 Their position is, oh, no, you had your head in the sand.

24 Should have known. Should have checked. Should have gone out.

25   Well, we have a lot of evidence on that, too. Why

1   would someone who has made a product public and is giving it

2   away, and it's known to Sun exactly what it is, why would

3   someone go search Sun patents when Sun itself is saying,

4   welcome to the Java community?

5   Does that make any sense? Why would you go out and

6   search for patents when the patent holder has already told you,

7   hey, we love to have you as part of the Java community?

8   Now, it's more than that. Virtual machines weren't

9   new. They don't have a patent on a virtual machine. They

10 weren't new when Sun did Java in the first place. Virtual

11 machines weren't rare, and they weren't invented by Sun.

12   Those -- those few snippets of e-mail you saw in the

13 opening, about patent protection, that had nothing to do with

14 patent protection for Google.

15   Mr. Rubin explained that. If you're going to make

16 Sun technology and Google technology open source for people to

17 use, you want them to have patent protection so you're not

18 trapping them. That's the point of patent protection.

19   It wasn't Google worried about Sun technology. If

20 Google were using Sun technology, they would have paid for it.

21 That was the whole idea.

22   The patent protection in those snippets is for

23 members of the developer community, OEMs, handset makers,

24 carriers, other people.

25   Now, you know exactly, having seen Mr. Rubin, what

 1   his position was. His position was, We at Google, we innovate.

 2   We innovate. I don't tell my engineers to go look at everybody

 3   else's patents. I tell my engineers, do your own work.

 4   And you know they did. Took them three years to do

 5   it. And the work we're defending now, here in court, was a

 6   long time coming at Google, and a lot of money, and a lot of

 7   people.

 8   Let's hear from what -- from Mr. Rubin about this

 9   issue.

10   (Video deposition clip played in open court; not

11   reported.)

12   **MR. VAN NEST:** Can we start it again, Ben.

13   Let me just mention, this was played during Phase

14   Two, not Phase One. So you saw this testimony just a few days

15   ago, last week.

16   (Video deposition clip played in open court; not

17   reported.)

18   **MR. VAN NEST:** So Mr. Rubin and the engineers at

19   Google did it the right way. They did it their own way. They

20   built Android from scratch, based on the needs and requirements

21   of the smart phone.

22   They didn't rely on patents like these, that were

23   issued in the '90s and were used in connection, if at all, with

24   desktop computers.

25   So, now, as Judge Alsup likes to say, you know the

1 drill.

2   I'm going to put one more slide up to remind you that

3 when I sit down, I won't get a chance to get up again.

4   I have tried to summarize the most important evidence

5 and the most relevant evidence. I'm sure I missed something.

6 I'm sure I overlooked something. I'm sure I made a couple of

7 mistakes along the way. I'm sure Mr. Jacobs will have an

8 opportunity to point those out.

9   But this is what I'd like you to be thinking about as

10 Oracle makes their final presentation, because we've proved

11 every single word of this. Google made fundamentally different

12 design choices for Android. And that means three things.

13   We don't use symbolic references in our instructions,

14 and we never have. And every witness confirmed that the

15 indexes in there are locations in memory, not symbolic

16 references.

17   Dexopt isn't now, never was, never has been a dynamic

18 operation. It runs at install time.

19   '520 covers only one very narrow specific way of

20 dealing with an array, simulated execution of the bytecode.

21 There is no evidence, other than the testimony of Dr. Mitchell,

22 which is inconsistent with the source code, with the

23 experiments Dr. Parr did, with the testimony of the people that

24 designed it, and with the testimony of Dr. Parr, that Android's

25 dx tool does not simulate execution. It uses pattern matching,

1 which is never mentioned in the patent and falls outside.

2   I think now it's undisputed this next point:

3   "Independently developed Android not knowing

4   of the Sun patents."

5   They can see that nobody on the Android design team

6 looked at, saw, was aware of, used copied, or otherwise had

7 access to either of these two patents.

8   And:

9   "Android does not use Sun's technology."

10   I guess -- I guess that's the capper. Android uses

11 Android technology built by Google developed by Google

12 engineers.

13   And it's been a great privilege to appear here in

14 this case, and good luck on your deliberations.

15   I've got one more slide.

16   (Document displayed)

17   Thank you.

18   (Laughter.)

19   And thank you, your Honor.

20   **THE COURT:** Since I'm going to need to give the jury

21 the instructions, I think it's best to take our break now.

22 When we come back, Mr. Jacobs will have his rebuttal and I will

23 give you the instructions and then the case will go to you.

24   Please don't deliberate yet. 15 minutes, remember

25 the admonitions.

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 1              THE CLERK:  All rise.

 2              (Jury exits the courtroom at 11:10 a.m.)

 3              THE COURT:  All right.  Please be seated.

 4              Any issues for the Court?

 5              MR. JACOBS:  No, your Honor.

 6              MR. VAN NEST:  Not here, your Honor.

 7              THE COURT:  All right.  So remember, six minutes.

 8              MR. JACOBS:  I'll have a clock, your Honor.

 9              (Whereupon there was a recess in the proceedings

10               from 11:10 a.m. until 11:29 a.m.)

11              THE COURT:  Are we ready?

12              Dawn let's bring in the jury.  This will take a

13   moment.  Be seated please.

14              (Jury enters courtroom at 11:30 a.m.)

15              THE COURT:  Okay, please be seated.

16              Ready over there?

17              (All jurors respond affirmatively.)

18              THE COURT:  Mr. Jacobs, please proceed.

19              MR. JACOBS:  Thank you, your Honor.

20                         REBUTTAL ARGUMENT

21              MR. JACOBS:  Google is still not telling you the full

22   story.  The whole argument turns on this being data

23   (indicating).  Both experts agree it was properly labeled as

24   the "constant pool."

25              And Mr. McFadden specifically acknowledged in trial
```

1 testimony that we will now put on are the screen from 3754,

2 Lines 13 to 16 that the Field ID table is not stored in the

3 data area of a dex file.

4   **"ANSWER:** It's not stored in the section

5   that's labeled 'Data.'"

6   The whole argument collapses.

7   Now, Mr. Van Nest agreed that the distinction between

8 this is at least the distinction between meaningful data and

9 unmeaningful data. We're relying on meaningful data. Google

10 is relying on unmeaningful data.

11   When you go back and look at the patent and look at

12 the claims and look at the Fig. 1A and 1B, ask yourselves: Is

13 this patent about obtaining meaningful data or non-meaningful

14 data? A noninfringement argument that relies on non-meaningful

15 data makes no sense.

16   There were other things that came up in Google's

17 argument that bear addressing quickly.

18   Number one. They had more witnesses. They had more

19 documents. There is kind of a physical measurement of the

20 weight of the evidence test.

21   We called those witnesses. We called Mr. McFadden in

22 our case, because we knew as a technical guy, as a software

23 developer, Mr. McFadden would tell us how the code worked.

24   We called Mr. Bornstein in our case. He's a little

25 more evasive on the stand, but even he had to acknowledge what

 1 his own documents and code said. Trust the code. Trust the

 2 documents. We brought that information to you in our case

 3 because it proves our case.

 4   Recklessness. I think the definition of

 5 "recklessness" is relying on a blog post. And you answered

 6 this question in 4-B of the jury verdict form in Phase 1.

 7   But there is document after document that I showed

 8 you a few minutes ago. One more I'm going to highlight again

 9 now that reveals that Google knew it was dangerous what it was

10 doing.

11   And so let's take a quick look again at 1029.

12   (Document displayed)

13   And this is an exchange that I reported to you

14 briefly on in my initial comments. And look what Tim Lindholm

15 is saying to Dan Bornstein:

16   "Actually, having said that -- which is

17   whether we should engage with Sun -- I wonder

18   whether this is too close to dangerous

19   territory."

20   Too close to dangerous territory. This is two years

21 after the blog post.

22   And I don't want to go over the whole history of the

23 blog post again, but recall that the blog post is before the

24 release of the code on the website and that shortly after the

25 blog post, there is a statement from Sun about great concerns

 1 about fragmentation.

 2   Last point. It is true that Oracle brought specific

 3 patents to Google's attention on July 20th, 2010. That is not

 4 the same as Google engineers did not have access to Sun patents

 5 before that. And we know that Mr. Lindholm not only had access

 6 to, but specifically wrote about the predecessor to one of the

 7 patents-in-suit in his textbook.

 8   Can I have TX 25, please?

 9   (Document displayed)

10   Lindholm and Yellin, the *Java Virtual Machine*

11 *Specification.* Page 389:

12   "The technique documented in this chapter is

13   covered by U.S. Patent 5,367,685."

14   Look at the '104 patent. You'll see that number

15 right on there.

16   It's one thing to say that they weren't specifically

17 on notice by communication from Oracle. It's another thing for

18 Google to argue they didn't even have access to these patents.

19 Access. Google organizes the world's information. They have

20 access to all of the information, and they certainly had access

21 to Sun patents. They, as I recall, could have gone to search.

22 They could have studied. They could have done an independent

23 development in which they invested to diverge. They could have

24 done their own design and not infringe these patents, and they

25 didn't, and that was recklessness.

1   Thank you again for your attention.

2   **THE COURT:**   Thank you.

3   The judge invites any member of the public who wishes

4   to excuse themselves during the reading of the jury

5   instructions to exit now.   Otherwise, please stay here til the

6   bitter end so that there will be no distractions while you get

7   up and down.

8   (Brief pause.)

9   **THE COURT:**   All right.   Thank you.

10   I need to do that because as you now know, you get to

11   hear the official reading of the instructions and this is the

12   time that the jury under the law learns what the law is.   It's

13   an important moment.

14   Often members of the public treat it as a non-event,

15   but this part of the trial is just as important as all the

16   evidence that you've heard because you need to take the

17   evidence that you have learned in this trial over many days and

18   weeks and apply it precisely, or at least apply the law

19   precisely.   So I remind you of the importance of following the

20   law.

21   All right.   This will only be about 10 to 12 minutes

22   because it's a shorter set of instructions.   I will reread the

23   part that I had read just at the end just two sentences for

24   context.

25

1   **FINAL JURY INSTRUCTIONS**

2   **THE COURT:** On any issue, if you find that plaintiff

3   carried its burden of proof as to each element of a particular

4   issue, your verdict should be for plaintiff on that issue. If

5   you find that plaintiff did not carry its burden of proof as to

6   each element, you must find against plaintiff on that issue.

7   I will now turn to the law that applies to this case.

8   As you know, in this lawsuit Oracle seeks relief from Google

9   for allegedly infringing Claims 11, 27, 29, 39, 40, and 41 of

10 the United States Patent Number RE38,104 ("Method And Apparatus

11 For Resolving Data References In Generated Code"); and Claims 1

12 and 20 of the U.S. Patent Number 6,061,520 ("Method And System

13 For Performing Static Initialization"). I will refer to these

14 claims as the "asserted claims." The products that allegedly

15 infringe the asserted claims are certain Android mobile devices

16 and software and the Android Software Development Kit. The

17 Android SDK is a set of development tools that a programmer can

18 use to develop applications for Android. The Android SDK

19 includes a set of libraries, documentation, an emulator for

20 emulating an Android device on a computer, a debugger, and a

21 sample set of code. Google denies that it infringes. Your job

22 is to decide the issues of infringement.

23   As you know, the patent claims of the numbered

24 paragraphs at the end of the patent. The claims are important

25 because they specifically define the exclusive rights granted

1 by the Patent Office. The figures and the rest of patent

2 provide a description and/or examples of the invention and

3 provide a context for the claims, but the claims define how

4 broad or narrow the patentholder's rights are. It is often the

5 case that a patent specification and its figures disclose more

6 than the specific matter claimed as inventions, so it is

7 important to keep straight what the specification says versus

8 what the claims say.

9   I should pause here and just say the specification is

10 the description, the basic write-up in the patent. It's what

11 the lawyers often call that part of the patent. So I'll read

12 that again.

13   So it is important to keep straight what the

14 specification says versus what the claims say.

15   In a patent, an independent claim is one that is a

16 stand-alone claim and does not incorporate any other claim. A

17 dependent claim is one that depends on an earlier claim by

18 incorporating it by reference and then adding one or more

19 additional elements. Such incorporation imports the entirety

20 of the incorporated claim, including all of its elements, into

21 the dependent claims. For the '104 patent, all of the asserted

22 claims are independent claims. For the '520 patent, Claim 1 is

23 an independent claim. Claim 20 is a dependent claim. Claim 20

24 incorporates independent Claim 18.

25   I am now going to instruct you on the meaning of some

1 of the words and phrases in the claims of the '104 patent. You

2 must accept and use these meanings in your deliberations.

3   Intermediate form code and intermediate form object

4 code. Both intermediate form code and intermediate form object

5 code mean executable code that is generated by compiling source

6 code and is independent of any computer instruction set.

7   Symbolic reference. The term symbolic reference

8 means a reference that identifies data by a name other than the

9 numeric memory location of the data, and that is resolved

10 dynamically rather than statically.

11   Resolve and resolving. The term resolving a symbolic

12 reference means at least determining the numerical

13 memory-location reference that corresponds to the symbolic

14 reference.

15   You must accept these definitions as established for

16 purposes of your deliberations and verdict. You may, however,

17 consider all of the evidence in the case as to whether or not

18 the accused product or method meets these definitions. If a

19 witness has based his view on meanings of the terms contrary to

20 my stated definitions, you should discount that part of his

21 testimony accordingly.

22   Oracle has the burden of proof on infringement.

23 Oracle must persuade you that it is more likely than not that

24 Google has infringed.

25   A patent's claims define what is protected by the

1 patent. A product or method infringes a patent if all

2 limitations of an asserted claim are present in the product or

3 method. Each claim asserted must be separately analyzed.

4   Oracle accuses Google of infringement. Deciding

5 whether a claim has been infringed is a two-step process. The

6 first step is to decide the meaning of the patent claim. I

7 have already instructed you as to the meaning of some of the

8 terms in the asserted patent claims. The second step is to

9 decide whether Google has made, used, sold, or offered for sale

10 within the United States a product or method covered by the

11 asserted claim. Distributing or offering a product for free

12 constitutes a use or sale. If Google has, it infringes. You,

13 the jury, must make this decision.

14   You must consider each of the asserted claims of a

15 patent individually and decide whether Google infringes that

16 claim.

17   To decide whether an accused product or method

18 infringes an asserted claim, you must compare the accused

19 product or method with the particular patent claim and

20 determine whether every limitation of the asserted claim is

21 included in the accused product or method. If so, then the

22 maker, user, or seller of the product or method infringes that

23 claim. If, however, the accused product or method does not

24 meet every requirement in the particular asserted claim, then

25 the maker, user, or seller does not infringe that claim. You

 1 | must decide infringement for each asserted claim separately.

 2 | Oracle must prove infringement of the claim by a preponderance

 3 | of the evidence.

 4 | If all elements of an asserted claim have been

 5 | proven, it is not a defense to infringement that the accused

 6 | product or method includes an additional element not called out

 7 | in the patent claim. For infringement to be proven, the

 8 | elements must all be present as per the claim language. For

 9 | example, if a patented method claim calls out three steps to

10 | paint a wall, it would be infringed by a method including the

11 | same three steps in the claim and it would be no defense that a

12 | fourth step is also done.

13 | To prove infringement, it is not necessary to prove

14 | that any infringement was intentional or willful. Innocent

15 | infringement would still be infringement. The fact, if true,

16 | that the accused product or method was independently developed

17 | without any copying of the patent owner's product or method is

18 | not a defense to infringement. All that matters for purposes

19 | of infringement is whether all limitations of the claim are

20 | present in the accused product or method.

21 | To assist you on the infringement issue, counsel gave

22 | you a handout that identified the limitations in dispute and

23 | underlined in red the elements disputed. Oracle contends that

24 | the accused products and methods satisfy all the limitations of

25 | the asserted claims. Google concedes that the elements not

1 underlined are present in the accused products, but contends

2 the underlined items are absent.

3   You have heard reference during opening statements to

4 something called "indirect infringement." In order to simplify

5 your work, the parties have agreed that the only issue for you

6 to decide is whether Google infringes and if so, whether it was

7 willful.

8   If you have decided that Google has infringed, you

9 must go on and address an additional issue of whether or not

10 this infringement was willful. For this willful inquiry, you

11 can only consider events that occurred prior to the filing of

12 this lawsuit on August 12, 2010.

13   Willfulness requires you to determine by clear and

14 convincing evidence that Google acted recklessly. Again, when

15 a party has the burden of proving any claim by clear and

16 convincing evidence, it means that you must be persuaded by the

17 evidence that the claim is highly probable. This is a higher

18 standard of proof than proof by a preponderance of the

19 evidence. To prove that Google acted recklessly, Google [sic]

20 must prove two things by clear and convincing evidence. The

21 first part of the test is objective: Google [sic] must

22 persuade you by clear and convincing evidence that Google acted

23 despite a high likelihood that Google's actions infringed a

24 patent --

25   **MR. VAN NEST:** Your Honor, could you reread that? I

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 1  think you -- you switched "Oracle" and "Google" a couple times.

 2           THE COURT:  All right.  Starting with the first part,

 3  or earlier?

 4           MR. VAN NEST:  I think starting maybe -- the bottom

 5  of seven, the last sentence.

 6           THE COURT:  All right.  I will be happy to.

 7           I will start with this part two.

 8           To prove that Google acted recklessly, Oracle must

 9  two things by clear and convincing evidence.  The first part of

10  the test is objective.  Oracle must prove -- no, Oracle must

11  persuade you by clear and convincing evidence that Google acted

12  despite a high likelihood that Google's actions infringed a

13  patent.  In making this determination, you may not consider

14  Google's state of mind.  Legitimate or credible defenses to

15  infringement, even if not ultimately successful, demonstrate a

16  lack of recklessness.  Only if you could be conclude that

17  Google's conduct was reckless do you need to consider the

18  second part of the test.

19           The second part of the test does not -- sorry.

20           The second part of the test does depend on the state

21  of mind of Google.  Oracle must persuade you by clear and

22  convincing evidence that Google actually knew or should have

23  known that its actions constituted an unjustifiably high risk

24  of infringement of a patent.

25           To determine whether Google had this state of mind,
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1 consider all facts which may -- all facts which may include,

2 but are not limited to:

3   1.   Whether or not Google acted in accordance with

4 the standards for commerce for its industry;

5   2.   Whether or not Google intentionally copied a

6 product of Oracle that is covered by the asserted patents;

7   3.   Whether or not there is a reasonable basis to

8 believe that Google did not infringe or had a reasonable

9 defense to infringement;

10   4.   Whether or not Google made a good faith effort to

11 avoid infringing the asserted patents, for example, whether

12 Google attempted to design around the asserted patents; and

13   5.   Whether or not Google tried to cover up its

14 infringement.

15   I will again give you a special verdict form to guide

16 your deliberations. Although the special verdict form presents

17 the questions in numerical order, you may consider the

18 questions out of sequence so long as your answers conform to

19 the directions on the form concerning which questions you must

20 ultimately answer and which questions are only conditional

21 depending on your other answers.

22   When you retire to the jury room to deliberate you

23 will soon receive the following things:

24   1.   All the exhibits received in evidence, including

25 those from Phase 1;

1   2.   An index of the exhibits;

2   3.   A work copy of these instructions for each of

3   you;

4   4.   A work copy of the verdict form for each of you;

5   5.   An official verdict form.

6   Remember that none of these items are evidence except

7   the exhibits.

8   When you recess at the end of a day, please place

9   your work materials in the brown envelope provided and cover up

10   any easels with your work notes so that if my staff needs to go

11   into the jury room, they will not even inadvertently see any of

12   your work in progress.

13   In your deliberations it is usually premature to take

14   a straw vote early on. This is due to the risk of jury members

15   expressing a premature opinion and then, out of pride, digging

16   in their heels. Rather, it is usually best to discuss the

17   evidence, pro and con, on the various issues before proceeding

18   to take even a straw vote. In this way, all of the viewpoints

19   will be on the table before anyone expresses a vote. These are

20   merely recommendations, however, and it is entirely up to you

21   to decide how you wish to deliberate.

22   A United States Marshal will be outside the jury room

23   door during your deliberations. If it becomes necessary during

24   your deliberations to communicate with me, you may send a note

25   through the Marshal, signed by your foreperson or by one or

1 more members of the jury. No member of the jury should ever

2 attempt to communicate with me except by a signed writing, via

3 the marshal, and I will respond to the jury concerning the case

4 only in writing or here in open court.

5   If you send out a question, I will consult with the

6 lawyers before answering it, which may take some time. You may

7 continue your deliberations while waiting for any answer to a

8 question. Remember that you are not to tell anyone, including

9 me, how the jury stands, numerically or otherwise, until after

10 you have reached a unanimous verdict or have been discharged.

11 Do not disclose any vote count in any note to the Court.

12   As you know, you have been required to be here from

13 7:45 to 1:00. Now that you are going to begin your

14 deliberations, as before, you are free to modify this schedule

15 within reason. For example, if you wish to continue

16 deliberating in the afternoons after a reasonable lunch break,

17 that is fine. The Court, does, however, recommend that you

18 continue to start your deliberations by 8:00 a.m. If you do

19 not arrive at a verdict by the end of today, then you will

20 resume your deliberations tomorrow and thereafter.

21   It is very important that you let us know via note, a

22 note, what hours you will be deliberating so that we may

23 conform our schedule to yours.

24   You may deliberate only when all of you are together.

25 Now that is the 11 of you, not 12. The 11 of you. You may

1 only deliberate when all 11 of you are together. This means,

2 for instance, that in the morning before everyone has arrived

3 or when someone steps out of the room to go to the restroom,

4 you may not discuss the case. As well, the admonition that you

5 are not to speak to anyone outside the jury room about this

6 case still applies during your deliberations.

7   And, also, that you should not do any homework, go on

8 the internet and do research about this case, that still

9 applies.

10   After you have reached a unanimous agreement on a

11 verdict, your foreperson will fill it in, date it, sign it and

12 advise the Court through the Marshal that you have reached a

13 verdict. The foreperson should hold onto the filled-in verdict

14 form and bring it into the courtroom when the jury returns the

15 verdict.

16   Thank you for your careful attention. The case is

17 now in your hands. You may now retire to the jury room and

18 begin your deliberations.

19   **THE CLERK:** All rise.

20   (Jury exits the courtroom at 11:54 a.m.)

21   **THE COURT:** All right. Please be seated.

22   Any issues for the Court?

23   (No response.)

24   **THE COURT:** Hearing none, we will do our --

25   **MR. PURCELL:** Your Honor?

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 1              THE COURT:  Yes, Mr. Purcell.

 2              MR. PURCELL:  Your Honor, I apologize.  I raised this

 3   morning before we got started with the closings the issue of

 4   Phase 3, which may be starting as soon as tomorrow.

 5              Oracle has asked for us to make our CEO and our

 6   chairman available here to testify about these nine lines of

 7   code and whatever revenue from Android might be attributable to

 8   them.

 9              We moved to exclude those witnesses from the trial

10   and, also, to clarify the evidentiary issues and, hopefully,

11   get a ruling that Oracle needs to actually put forward some

12   evidence of --

13              THE COURT:  What is the point now, Mr. Purcell?

14              MR. PURCELL:  Well, I guess the point in the first

15   instance is if the damages phase is going to start tomorrow, we

16   need to get our witnesses up here and prepare them.

17              THE COURT:  First, we need to get the exhibits in the

18   jury room and send all the things in.  It is now -- it's now

19   almost noon.

20              I'm trying to think of when I have the criminal

21   calendar this afternoon.  We'll do this.  Dawn, at 1:30 can we

22   reconvene to hear this motion?

23              THE CLERK:  Sure.

24              THE COURT:  1:30 we will reconvene to hear your

25   motion.
```

1   Listen, but you need to -- it doesn't matter that

2   they want to get your top people back here unless you have a

3   legitimate legal reason for postponing it, which I will, of

4   course, hear. And so we're going to have a full and fair

5   discussion about these issues, but the fact that Mr. Big is

6   being subpoenaed, I'm sorry. This is a big case. That doesn't

7   cut much of a figure with me.

8   What might cut much of a figure with me is the fact

9   that I still have trouble understanding how nine lines of code

10   can lead to anything more than statutory damages. That's the

11   point you ought to be worrying about and not playing the violin

12   about Mr. Big, who is going to have to give up his vacation.

13   All right?

14   **MR. PURCELL:** We get that, your Honor, and the issues

15   are related. It's the fact that these witnesses don't have

16   anything to say about these nine lines of code, but I hear your

17   Honor's comments.

18   **THE COURT:** Thank you. We're going to break now.

19   We're going to get this stuff into the jury room that they

20   need. We will reconvene at 1:30.

21   (Whereupon there was a recess in the proceedings

22   from 11:57 until 1:30 p.m.)

23   **THE COURT:** Please be seated. Thank you.

24   Okay. Back to work.

25   Let's hear this -- hear the motion.

1   **MR. PURCELL:** Thanks for making time, Your Honor.

2   So cutting to the chase, the issue in a nutshell for

3   Phase Three is what Your Honor has said over and over again in

4   this case.

5   This is not Android versus Java. It's more

6   particular than that. Android wasn't found to have infringed

7   Java. What was found to have infringed were these two test

8   files that -- sorry, these two Timsort files that contain the

9   nine lines of rangeCheck code and then the eight test files

10   that didn't end up on any phone.

11   And it was Oracle in the jury instructions who asked

12   for the files to be defined in that narrow way, because they

13   didn't want the infringing material compared to the entire Java

14   platform. That would have run the risk of a de minimus

15   verdict. So they asked for and they got a verdict form and a

16   verdict that defined the infringement very narrowly.

17   Now, for purposes of the damages phase they want to

18   turn that around. They want to act as though Android

19   infringes.

20   There's no finding of that. And all they've said

21   about what the damages phase is going to consist of will be

22   them pointing to Android gross revenues. That's it. And they

23   say that carries their burden, and then the burden shifts to

24   us.

25   That's not enough legally. And the case that

1 establishes that most clearly is the *Mackie vs. Rieser* case in

2 the Ninth Circuit, 2002.

3   And what happened in *Mackie* was the infringing

4 material was one photo that was incorporated into a collage on

5 one page of a promotional brochure for a symphony. Now, the

6 symphony didn't sell the brochure. That was given away for

7 free, for the purpose of promoting subscriptions.

8   And, basically, we have the exact same thing here.

9 We have nine lines of code out of 15 million lines in the

10 Android software.

11   And the Android software isn't sold. It's given away

12 for free. But, obviously, Google uses that software to enable

13 downstream ad sales and application sales.

14   So we have a similar sort of indirect source of

15 revenue that the plaintiff wants to get at. We have a

16 similarly attenuated causal link. And we have, in this case, a

17 far tinier quantum of infringing material than was at issue in

18 *Mackie*. We've got nine lines out of 15 million.

19   It's not enough for them to say, here's the Android

20 gross revenue, that's it, and they don't have anything else.

21   They don't have any witness, an expert witness or a

22 fact witness, who can tie any amount of revenue of any kind to

23 the specific files that were found infringed.

24   Those are the infringing products, the infringing

25 works, for the purposes of this analysis.

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 1          And so Your Honor's right.  I mean, this is a

 2  statutory damages case, if it's anything.

 3          And what the damages phase is going to consist of is

 4  a lot of documents with very big numbers.  Some of them actual,

 5  some of them projections, some of them aspirational statements

 6  from our CEO about how he hopes that Android will do great

 7  things in the future.  And it's not going to be tied to the

 8  actual issue that the jury has to resolve.  And that's our

 9  concern.  And that's what we want to head off.

10          THE COURT:  All right.  Mr. Boies.

11          MR. BOIES:  Thank you, Your Honor.  Let me begin with

12  one legal point and one factual point, and one point about what

13  we're claiming.

14          Let me begin with what we're claiming, because I -- I

15  constantly hear about how we're claiming, for nine lines of

16  code, billions or hundreds of millions of dollars.

17          We're not claiming billions or hundreds of millions

18  of dollars.  We are claiming that it's not zero.  And we are

19  claiming that we believe under the law they have a burden of

20  proof.  But there is no claim here that this is something in

21  which we are entitled to all or most or even a large percentage

22  of either the revenues or profits of Google.

23          Second, let me deal with the legal point.  There is

24  no case, none, in which there has been proven a product that

25  was containing copyright-infringed materials that was
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1 distributed and revenue generated and recorded by the defendant

2 where it has been held that the burden is still on the

3 plaintiff to go forward.

4   That is contrary to the clear command of 504(b). The

5 cases like *Mackie* are not cases that involve products that

6 generated revenue.

7   *Polar Bear,* which is a subsequent Ninth Circuit case,

8 is a case in which the Court analyzes in an indirect case, an

9 advertising case, analyzes three different types of situations.

10 And in two of those types of situations, the Court holds that

11 the plaintiff has met its burden. The only time that the

12 plaintiff didn't meet its burden was with respect to a claim

13 for something that didn't even generate any revenue.

14   There was no revenue tied to the advertisement. But

15 it was an attempt to put forward a theory that a price increase

16 over a period of four years was somehow tied to the

17 advertisement. The Court said, if you're going to make that

18 kind of claim you've got to tie something to the advertisement.

19   Here, Android includes copyright-infringing material.

20 There has been no case in which something has been distributed

21 containing copyright -- copyrighted-infringing material, that's

22 generated revenue, in which the Court has said you are now

23 limited to statutory damages; you cannot go to a trier of fact

24 on an infringer's profit.

25   The *Bucklew* case, out of the Seventh Circuit, says

1   the purpose of the infringer profits provision of 504(b) is to

2   make infringement worthless.

3   You don't make infringement worthless if what you say

4   is, if something is small there are no damages.

5   And, again, this is not a case, not a question of how

6   large the damages are. It is a question of whether we ought to

7   be precluded as a matter of law from going to the trier of fact

8   and seeking infringer's profits simply because the amount of

9   the copyrighted material contained in the infringing product is

10 small.

11   Third, a factual point. It's not at all clear to me

12 that the right comparison is nine lines to 15 million.

13 10 million of those of the Linux Kernel. But whatever

14 comparison is made, nine lines of code is a small percentage.

15   The test files, so-called test files -- again,

16 there's a factual dispute as to exactly what these are, but

17 those files are much more substantial. But they are not

18 included. At least in the current version of Android.

19   But both of those benefited Google. And it benefited

20 Google in at least several ways. But take one way just as an

21 example. It benefited Google because it accelerated the time

22 that Android could be finished.

23   The timing of Android was critical. We've

24 demonstrated that to a limited extent already. That would be

25 something that we would be demonstrating in Phase Three.

1   But the timing is critical, was critical to Google.

2   They wanted it faster, faster, faster. And what this did, what

3   this copying did was, it allowed them to use fewer resources

4   and to accelerate that.

5   Now, suppose they only accelerated it two days.

6   They're making $3 million a day, essentially, now. They are --

7   they are activating either 750,000 phones or 850,000 phones,

8   depending on which executive you listen to.

9   Mr. Schmidt said that he thought that each phone

10 ought to generate or could generate $10. That's 8 and a half

11 million dollars a day.

12   If you just get one day acceleration or two days

13 acceleration, that's anywhere from, you know, six to

14 $17 million. That is not an unreasonable amount of money. And

15 it is not something that is untethered from the value that is

16 created.

17   What they want to argue is that somehow this court,

18 as a matter of law, ought to say, if something is small you

19 don't get any infringer's profits.

20   We think that's contrary to the precedent. We think

21 it's contrary to the statute. It's contrary to the policy.

22 It's designed to make infringement worthless. And what it does

23 is, it gives them a free pass on these things that they

24 deliberately copied.

25   What they want to say is we deliberately copied them,

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 1  but it didn't help us.

 2          Yes, somebody else could have written that.  But it

 3  would have taken time.  And it would have taken some resources.

 4          The question is whether we're entitled, under the

 5  infringer's profits theory, to make a case to the trier of fact

 6  that we are entitled to get that.

 7          THE COURT:  Let me ask a question.

 8          MR. BOIES:  Sure.

 9          THE COURT:  Under 504 you are required to make an

10  election.  So I'd like to know, I would like to hear you say

11  it, because the other day I thought you had said the opposite.

12  So are you now saying that you waive -- not waive, but you

13  elect to try for 504 damages and profits, and not statutory

14  damages?

15          MR. BOIES:  Yes, Your Honor.

16          THE COURT:  All right.  So you recognize --

17          MR. BOIES:  I recognize if I lose this, zero.

18          THE COURT:  Zero.  And if you lose all the other

19  issues in the case, think about the -- just the costs alone.

20  You would then have lost everything.

21          MR. BOIES:  We understand that, Your Honor.

22          THE COURT:  And I expect that the amount of taxable

23  costs in this case are pretty high.

24          MR. BOIES:  I do, Your Honor.  And one of the things

25  that we could have done is, we could have taken statutory
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 1   damages on one of them and sought infringer's profits on the

 2   other, as a tactical matter.

 3          We think, as a matter of principle, that we're

 4   entitled to infringer's profits.  And the Court's -- I know

 5   from previous things the Court has said, the Court's dubiety

 6   about this.  Okay.

 7          And we've thought about the fact that if we lose this

 8   and lose the other, that we are in a position of not having won

 9   anything.  And we thought about it, okay.

10          We've thought about whether what we ought to do is we

11   ought to take statutory damages on one of those things, and

12   seek infringer's profits on the other.

13          And we decided that's that was the wrong thing to do,

14   that as a matter of principle that we thought we were entitled

15   to infringer profits.

16          And as a matter of principle, in trying to enforce

17   these copyrights, we didn't want to send a message that says,

18   if you take something that's small, and you're a big company

19   and you can afford to litigate it thoroughly, what we're going

20   to do is we're going to say, okay, we're going to settle for

21   statutory damages.

22          THE COURT:  All right.  Let's go to that point.

23          Does your expert call out these two items and trace

24   through a nexus from those items to the large amount of profits

25   that you have in mind?
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 1   I don't think -- I think the answer to that is no.

 2 But maybe I don't understand the expert report well enough.

 3   **MR. BOIES:** I think the way the Court is asking the

 4 question, the answer is no, Your Honor.

 5   **THE COURT:** The law requires you to prove a nexus

 6 between the infringement and the body of profits that you're

 7 seeking. So how do you propose to prove that nexus?

 8   **MR. BOIES:** With respect, Your Honor, I think the law

 9 with respect to infringer profits, as opposed to damages, only

10 requires us to demonstrate that there was a product that

11 contained infringing material, and that product generated

12 revenue.

13   Once we have done that, I believe the burden shifts

14 to the other side.

15   Now, if I'm wrong about that -- and I don't think

16 there is a case that holds that I'm wrong on that -- but if I'm

17 wrong about that, I think it is still possible as a factual

18 matter to demonstrate a nexus by, for example, showing that,

19 one, speed was very important to Google in getting Android out

20 there; two, by copying, they accelerated that; three, even --

21   **THE COURT:** Can I stop you on that part for a second?

22 We heard the testimony of Mr. Bloch.

23   **MR. BOIES:** Yes.

24   **THE COURT:** All right. I have -- I was not good -- I

25 couldn't have told you the first thing about Java before this

1   trial. But, I have done and still do a lot of programming

2   myself in other languages. I have written blocks of code like

3   rangeCheck a hundred times or more. I could do it. You could

4   do it. It is so simple.

5   The idea that somebody copied in order to get to

6   market faster, when it would be just as fast to write it out,

7   it was an accident that that thing got in there.

8   There was no way that you could say that that was

9   speeding them along to the marketplace. That is not a good

10 argument.

11   **MR. BOIES:** Your Honor --

12   **THE COURT:** You're one of the best lawyers in

13 America. How can you even make that argument?

14   You know, maybe the answer is because you are so good

15 it sounds legit. But it is not legit. That is not a good

16 argument.

17   **MR. BOIES:** Your Honor, let me approach it this way,

18 first, okay. I want to come back to rangeCheck. All right.

19   **THE COURT:** RangeCheck. All it does is it makes sure

20 that the numbers you're inputting are within a range. And if

21 they're not, they give it some kind of exceptional treatment.

22 It is so -- that witness, when he said a high school student

23 would do this, is absolutely right.

24   **MR. BOIES:** He didn't say a high school student would

25 do it in an hour, all right.

1   **THE COURT:** Less than -- in five minutes, Mr. Boies.

2   **MR. BOIES:** Well, Your Honor --

3   **THE COURT:** If you know the language. Once you know

4   the language, it is a five-minute proposition.

5   **MR. BOIES:** Your Honor, I'm not an expert on Java,

6   okay. This is my second case on Java, but I'm not an expert on

7   Java. And I couldn't program that, probably, in six months.

8   But I accept that there are people who could.

9   If the Court would just let me -- I know I should

10   always answer the Court's question, but let me come back to

11   rangeCheck after I've just reminded the Court that we've got

12   the issue of these test files.

13   **THE COURT:** All right.

14   **MR. BOIES:** These test files, what they had to do was

15   they had to take the Oracle code, Sun code, decompile it, and

16   then re-create from that.

17   That was not an accident. That was not something

18   that they did by mistake. They did it intentionally. And they

19   did it for the purpose of accelerating what they were doing.

20   Or saving money. Or both.

21   I don't -- just as the Court says to me, rangeCheck

22   is only nine lines of code, and how can any -- you know, how

23   can you draw any inference from that, I say to the Court, you

24   can't look at the decompiling copy and simply say this was

25   meaningless.

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1              It's not in Android, but there's no doubt it

2  accelerated Android.  It helped Android.  That's why they did

3  it.

4              Now, let me come back to rangeCheck.  Every time I

5  talk about this I get in a situation where I feel like I'm

6  either saying it's important or it's nothing.  And that's a

7  false dichotomy.

8              Nobody can say that rangeCheck, you know, is an

9  essential element or a big thing.  But it was something that

10 was copied.  And it was something that was included.  And it

11 was something that was important to Timsort and

12 ComparableTimSort, that did have a significant performance

13 advantage.  Now, they could have done it a different way.

14             If you take a copyrighted poem, a nine-line

15 copyrighted poem, and you just pick that poem because you think

16 it is available to you, and it turns out you're wrong, and you

17 publish it, and nobody buys your anthology because of that nine

18 line poem, and you could have gotten another poem in five

19 minutes, but if you put it in, it's copyright infringement and

20 you're entitled to some infringer profits.

21             Now, I tell the Court, this is a much harder argument

22 for me on Timsort than it is on the other files because I

23 accept what the Court is saying about the limitations on

24 Timsort and the limitations on rangeCheck within Timsort.

25             My point is really a matter of principle, which is
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 1 that I think we are entitled to make a case for infringer

 2 profits.

 3   Now, if -- if I were just trying to do something

 4 tactical, what I would say is give me statutory damages on

 5 rangeCheck and let me go for infringer's profits on the other

 6 files.

 7   I, frankly, thought that the Court would think I was

 8 playing games if I did that; you know, which is why we're where

 9 we are.

10   I think that the -- the case for infringer profits on

11 the decompiled files, I don't see how you can not --

12   THE COURT: What is the nexus?

13   MR. BOIES: Well, the nexus is they were using these

14 to test and to produce Android.

15   THE COURT: How many times did they do that? What is

16 your testimony on that?

17   MR. BOIES: Well, that's one of the things I'm going

18 to be asking these people. Okay.

19   THE COURT: Who is even your witness?

20   MR. BOIES: I'm going to ask every single Google

21 witness that I call about that. And, Your Honor, I don't

22 even --

23   THE COURT: Is this a fishing expedition?

24   MR. BOIES: It's not a fishing expedition.

25   THE COURT: It sounds like it.

 1   Look. Here's what really happened. Your side did no

 2   discovery to this prior to trial. This was a non-issue. This

 3   was all in there just for coloration.

 4   And now you're in the fix that you haven't won on

 5   anything with copyright except this, and you want to make this

 6   into a federal case. It is a federal case.

 7   **MR. BOIES:** It is a federal case.

 8   **THE COURT:** You want to make it into a bigger federal

 9   case over something that's this tiny. And the reason, the

10   proof is in the pudding. You didn't do any discovery. You

11   don't even know who wrote -- you do know --

12   **MR. BOIES:** Yeah, we do.

13   **THE COURT:** -- Bloch, but you don't know about the

14   decompiled files and what role they had and what the nexus

15   might have been.

16   **MR. BOIES:** Your Honor, we have testimony from both

17   experts about the test files, all right. In addition, we -- I

18   agree with you, nobody thought we would be going to the jury on

19   these particular issues alone. Nobody thought that the jury

20   was going to hang on fair use.

21   What we had suggested was that this all be put off.

22   In fact, we think as, you know, from -- I'm not going to

23   reargue this, but, as you know, we think it's wrong to send

24   this to the jury alone.

25   **THE COURT:** Well, if I rule against you on

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 1  copyrightability, then we -- even Question 1, 1A and 1B is

 2  moot.

 3           MR. BOIES:  Yes, Your Honor.

 4           THE COURT:  Well, that's a possibility.

 5           MR. BOIES:  It is.  And, for example, one of the

 6  things that we suggested to the Court was that these two

 7  issues, these tiny issues, if you will, ought not to be the

 8  single subject of Phase Three.  That, for example, if you

 9  decide against us on copyrightability, that's going to resolve

10  the issue, you know, subject --

11           THE COURT:  It won't resolve these two issues.  It

12  won't resolve rangeCheck.  It still is there.

13           MR. BOIES:  Let --

14           THE COURT:  And I don't want to be stampeded into

15  making a decision.

16           MR. BOIES:  No.

17           THE COURT:  There are many, many pages I've got to

18  read.  I have a lot to read before I can tell you what the

19  answer is on the big issue.

20           So, in the meantime, we have -- we've got to get

21  through the rest of Phase Three.  And so there -- we're in this

22  position where I think you are taking a huge stretch.

23           I've got a criminal calendar to go to in a few

24  minutes.  I'm not going to rule right now.  Here's what we are

25  going to do.
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 1            MR. BOIES:  Could I make one possible suggestion?

 2            THE COURT:  Of course.  Go ahead.

 3            MR. BOIES:  I haven't talked to my client.  Sometimes

 4  my clients shoot me for these kind of things.

 5            But let me make a proposal, that we put off sending

 6  this to the jury.  That if it is determined that there's no

 7  copyrightability for the APIs, that we lose that, we'll take

 8  statutory damages for these two things, not make an infringer's

 9  profits claim.

10            If it turns out that we eventually go to a jury on

11  API damages, we'll seek this at that time.  So that if the API

12  thing goes away, these things go away and never have to go to a

13  jury.

14            If the API --

15            THE COURT:  Who would try that part of the case?

16            MR. BOIES:  I'm sorry?

17            THE COURT:  Let's say you lose on API, but you

18  still -- who would decide the amount of statutory damages?

19            MR. BOIES:  Uhm, Your Honor, I'd stipulate to

20  whatever the Court does.  You know --

21            THE COURT:  So you'd waive a jury on that?

22            MR. BOIES:  I'd waive a jury on that.

23            THE COURT:  If both sides would waive a jury on that,

24  that might be a doable proposition.

25            MR. BOIES:  I'm just trying to work something out.
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 1              I agree with the Court.  It makes no sense for us to

 2   try these two tiny issues in front of the jury.

 3              On the other hand, as a matter of principle, I don't

 4   think it is right to say that we're going -- we're going to

 5   relieve them of their infringer's profits obligation 504(b)

 6   puts on them.

 7              THE COURT:  All right.  Can I make -- you haven't

 8   agreed to anything yet.  You made a proposal.

 9              Mr. Purcell, I don't have time to negotiate for you

10   or with you.  I need to get to the criminal calendar.

11              But, I have a two-part ruling.  First -- it's not a

12   ruling on the ultimate question.  It's a ruling on how to

13   proceed from here, called modus vivendi.

14              MR. VAN NEST:  Called what?

15              THE COURT:  Modus vivendi.

16              MR. VAN NEST:  You've been reading too much Java.

17              (Laughter)

18              THE COURT:  You can look that up in that file cabinet

19   of yours.

20              (Laughter)

21              THE COURT:  Here is -- it means a way to muddle

22   through.  At least for today.

23              First, Oracle should submit tonight a detailed offer

24   of proof as to nexus, with specifics to show the nexus between

25   these two files and infringer's profits.
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 1   To my mind, a nexus has to be shown. That's not --

 2   in other words, if it's so de minimus, so speculative a

 3   connection, then it ought not to be -- we don't even go there.

 4   But, I'm not making that as a ruling of law now.

 5   That's just the way I think the law should be. And I would

 6   have to go look at the *Mackie* case and the *Polar Bear* case.

 7   But I would like to see that detailed offer of proof.

 8   And that should include what the experts have done on that

 9   subject.

10   Now, if Google wants to weigh in on that, I welcome

11   it, as well. So that would be due by 9:00 p.m. tonight.

12   Now, second thing is, I think the idea that Mr. Boies

13   suggested is a good enough start that you, as good lawyers,

14   ought to be able to find a way to draft a simple 2-page

15   document that would put off to the future, or in some way like

16   Mr. Boies suggested, a better way to deal with this problem.

17   **MR. PURCELL:** And --

18   **THE COURT:** Wait. Mr. Purcell, sit down. I don't

19   know what has gotten into you today, but you are on a tear.

20   Let me finish.

21   (Laughter)

22   **THE COURT:** What you need to think about, though, is

23   Mr. Boies suggestion that if there was a further trial later,

24   does that mean that the expert reports get reopened, that they

25   get to fix the problems they have with these two files that

 1 they -- I'm not saying yes or no on that. And the Court could

 2 years from now or months from now could possibly allow both

 3 sides to reopen and to address those issues.

 4   But it would be better if you addressed them in your

 5 agreements rather than for the Court to punt that issue.

 6   All right. Now, what did you want to say

 7 Mr. Purcell?

 8   **MR. PURCELL:** I apologize for interrupting you, Your

 9 Honor.

10   I just wanted to let you know that we've already

11 taken a position, and stand by it, that we would be comfortable

12 having the Court decide any entitlement to infringer's profits.

13   **THE COURT:** Okay. That's part of what was being

14 suggested.

15   **MR. PURCELL:** Right.

16   **THE COURT:** But the other parts are --

17   **MR. PURCELL:** There's other moving parts.

18   **THE COURT:** There are other moving parts that you

19 heard that would be -- you would have to address and come up

20 with a written agreement. A written agreement would be good.

21   So that's all I have to say on that, as Forrest Gump

22 would have said.

23   **MR. VAN NEST:** Your Honor, you said we could weigh in

24 at 9 o'clock, also. That's what I understood you to say.

25   **THE COURT:** Yeah. Both of you can file your briefs

1   at 9 o'clock.

2   MR. VAN NEST: Good.

3   THE COURT: We will take -- the jury -- I have to

4   back up. I think one member of the jury is still in the jury

5   room reading documents, which is fine. They are entitled to do

6   that. So not all the jurors have left the building. But you

7   are free to take off because the -- there's not going to be any

8   notes coming out of the jury room today.

9   Tomorrow your time is going to be --

10   MR. VAN NEST: 8:00 to 1:00, Your Honor.

11   THE COURT: 8:00 to 1:00. All right. Well, let's

12 reconvene tomorrow.

13   What time would you like to reconvene tomorrow,

14 8 o'clock?

15   MR. JACOBS: 8 o'clock is fine.

16   THE COURT: 8 o'clock. And we will see if you've

17 made any progress on this issue.

18   Thank you.

19   MR. VAN NEST: Thank you, Your Honor.

20   (Counsel thank the Court.)

21   (At 2:59 p.m. the proceedings were adjourned until

22   Wednesday, May 16, 2012, at 8:00 a.m.)

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CERTIFICATE OF REPORTERS

We, KATHERINE POWELL SULLIVAN and DEBRA L. PAS,

Official Reporters for the United States Court, Northern

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proceedings in C 10-3561 WHA, **Oracle America, Inc., vs. Google,**

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/s/ Katherine Powell Sullivan

Katherine Powell Sullivan, CSR #5812, RPR, CRR
U.S. Court Reporter

/s/ Debra L. Pas

Debra L. Pas, CSR #11916, RMR CRR

Tuesday, May 16, 2012